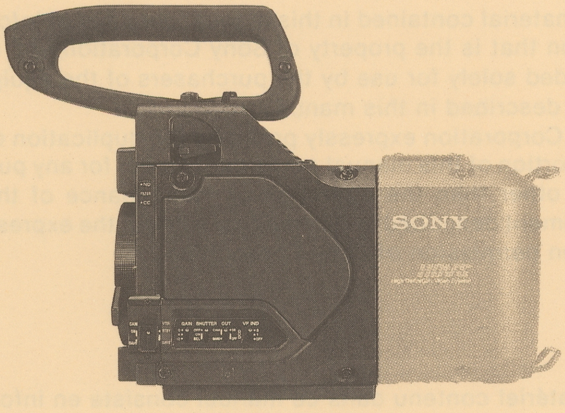
SONY®

HD COLOR CAMERA

# HDC-500



HDVS

## MAINTENANCE MANUAL

Volume 2 1st Edition (Revised 1)
Serial No. 10001 and Higher

## SAFETY RELATED COMPONENT WARNING

Components identified by shading and ⚠ marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

このマニュアルに記載されている事柄の著作権は当社にあり，説明内容は機器購入者の使用を目的としています。
従って，当社の許可なしに無断で複写したり，説明内容（操作，保守等）と異なる目的で本マニュアルを使用することを禁止します。

The material contained in this manual consists of information that is the property of Sony Corporation and is intended solely for use by the purchasers of the equipment described in this manual.
Sony Corporation expressly prohibits the duplication of any portion of this manual or the use thereof for any purpose other than the operation or maintenance of the equipment described in this manual without the express written permission of Sony Corporation.

Le matériel contenu dans ce manuel consiste en informations qui sont la propriété de Sony Corporation et sont destinées exclusivement à l'usage des acquéreurs de l'équipement décrit dans ce manuel.
Sony Corporation interdit formellement la copie de quelque partie que ce soit de ce manuel ou son emploi pour tout autre but que des opérations ou entretiens de l'équipement à moins d'une permission écrite de Sony Corporation.

Das in dieser Anleitung enthaltene Material besteht aus Informationen, die Eigentum der Sony Corporation sind, und ausschließlich zum Gebrauch durch den Käufer der in dieser Anleitung beschriebenen Ausrüstung bestimmt sind.
Die Sony Corporation untersagt ausdrücklich die Vervielfältigung jeglicher Teile dieser Anleitung oder den Gebrauch derselben für irgendeinen anderen Zweck als die Bedienung oder Wartung der in dieser Anleitung beschriebenen Ausrüstung ohne ausdrückliche schriftliche Erlaubnis der Sony Corporation.

# 目 次
# TABLE OF CONTENTS

## Volume 1

1. 設置

2. 主要部品の交換方法

3. サービスインフォメーション

4. 調整要項

1. **INSTALLATION**

2. **REPLACEMENT OF MAIN PARTS**

3. **SERVICE INFORMATION**

4. **ALIGNMENT**

## Volume 2

### A. BLOCK DIAGRAMS

OVERALL BLOCK ········ A-1
VA-118 BLOCK ········ A-2
SH-45 BLOCK ········ A-3
IF-345 BLOCK ········ A-4
PS-243 BLOCK ········ A-5
SV-135 BLOCK ········ A-6

### B. SEMICONDUCTOR PIN ASSIGNMENTS

### C. SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS

BOARD LAYOUT ········ C-1
VA-118 ········ C-2
SH-45 ········ C-4
IF-345 ········ C-6
PS-243 ········ C-8
SV-135 ········ C-10
CN-563 ········ C-12
FRAME ········ C-14
  MB-365
  CN-726
  SW-482
  SW-488
  SW-491
  SW-494
  SW-538
  SW-569

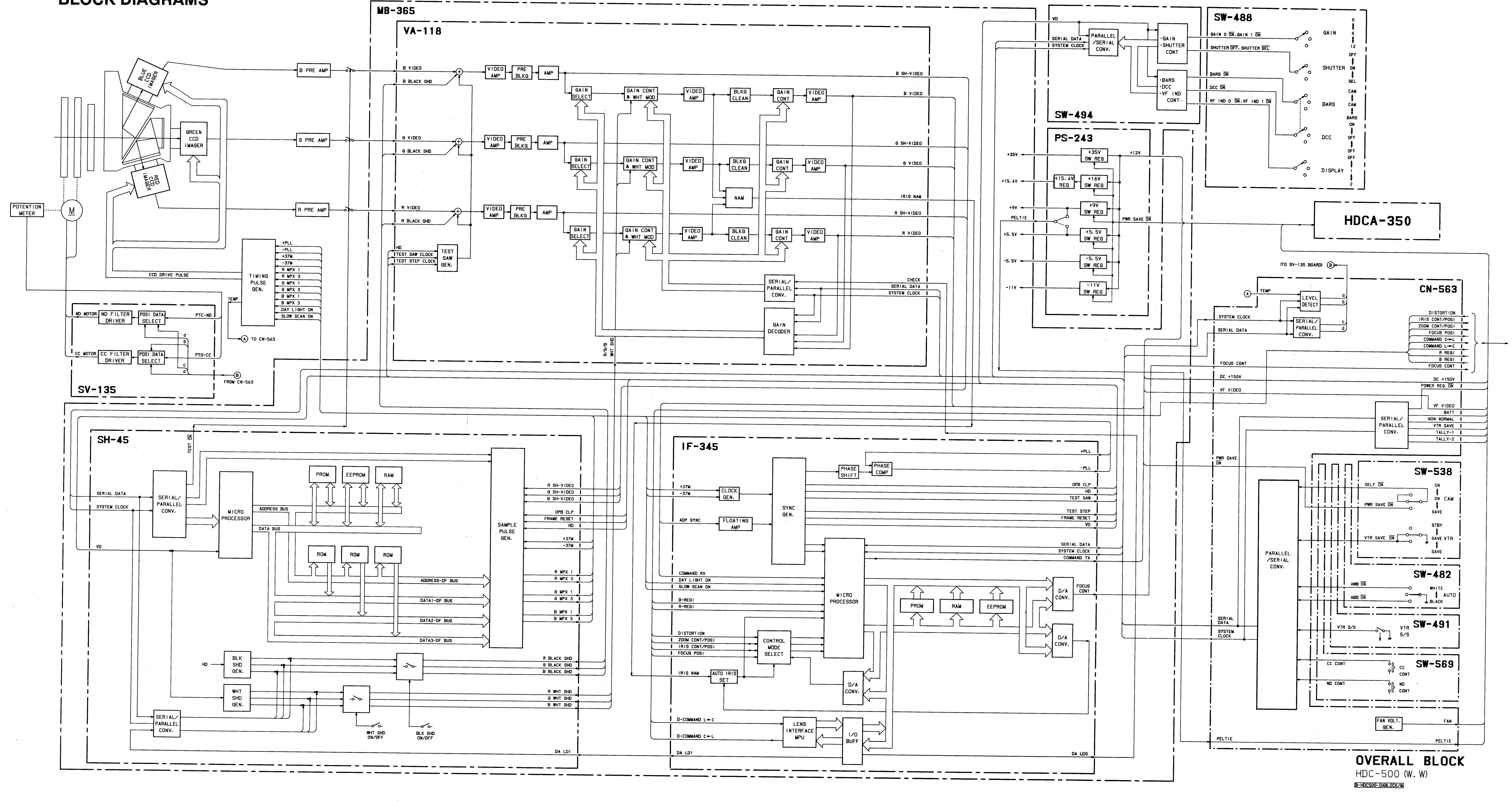
### D. SPARE PARTS

PARTS INFORMATION ········ D-1
EXPLODED VIEW ········ D-2
ELECTRICAL PARTS ········ D-7

### E. CHANGED PARTS

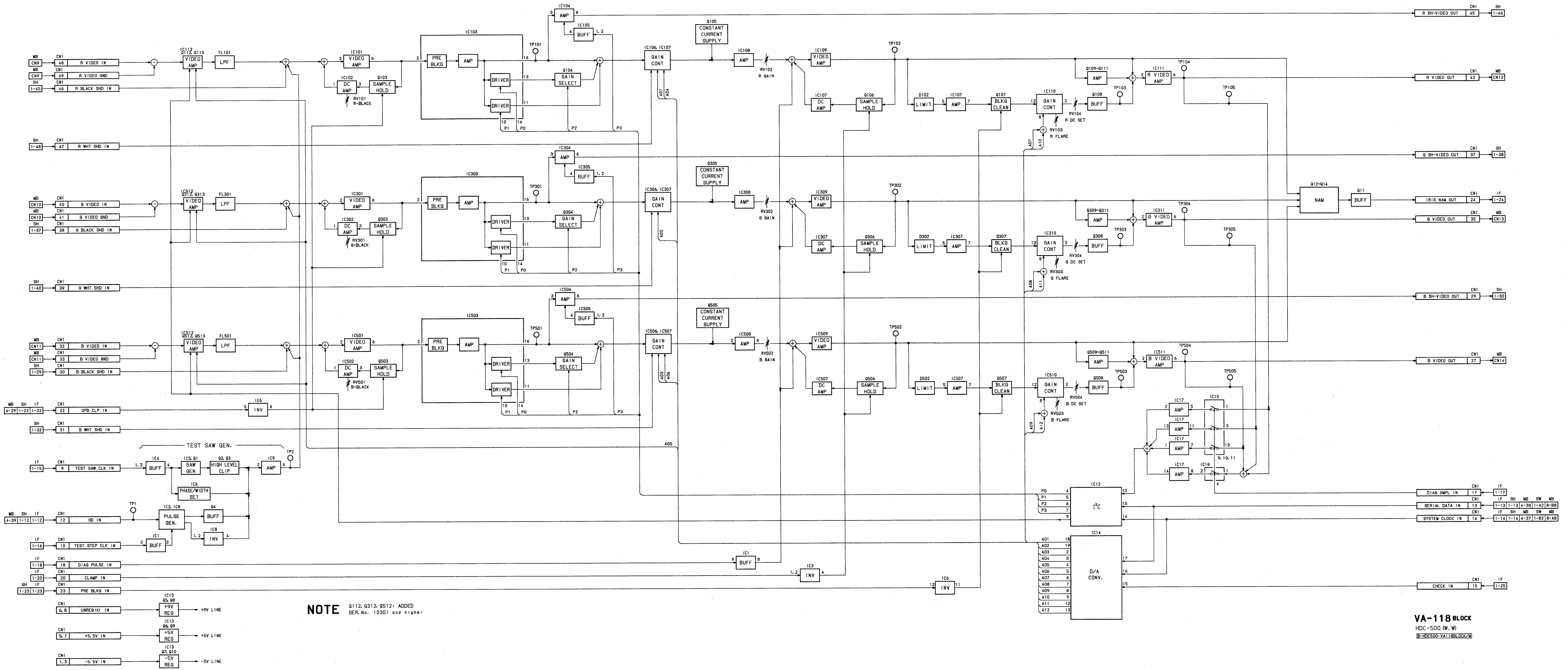
# SECTION A
# BLOCK DIAGRAMS

## OVERALL BLOCK


MB-365
VA-118
SW-488
SW-494
PS-243
HDCA-350
CN-563
SV-135
SH-45
IF-345
SW-538
SW-482
SW-491
SW-569
BLUE CCD IMAGER
GREEN CCD IMAGER
RED CCD IMAGER
POTENTION METER
M
B PRE AMP
G PRE AMP
R PRE AMP
VIDEO AMP
PRE BLKG
AMP
GAIN SELECT
GAIN CONT & WHT MOD
BLKG CLEAN
GAIN CONT
NAM
TEST SAW GEN.
TIMING PULSE GEN.
SERIAL/PARALLEL CONV.
GAIN DECODER
ND FILTER DRIVER
CC FILTER DRIVER
POSI DATA SELECT
PARALLEL/SERIAL CONV.
+35V SW REG
+15.4V REG
+16V SW REG
+9V SW REG
+5.5V SW REG
-5.5V SW REG
-11V SW REG
GAIN
SHUTTER
BARS
DCC
DISPLAY
LEVEL DETECT
LENS
MICRO PROCESSOR
PROM
EEPROM
RAM
ROM
SAMPLE PULSE GEN.
BLK SHD GEN.
WHT SHD GEN.
WHT SHD ON/OFF
BLK SHD ON/OFF
CLOCK GEN.
FLOATING AMP
SYNC GEN.
PHASE SHIFT
PHASE COMP
D/A CONV.
CONTROL MODE SELECT
AUTO IRIS SET
LENS INTERFACE MPU
I/O BUFF
FAN VOLT. GEN.
TO CN-563
FROM CN-563
TO SV-135 BOARD

OVERALL BLOCK
HDC-500 (W. W)

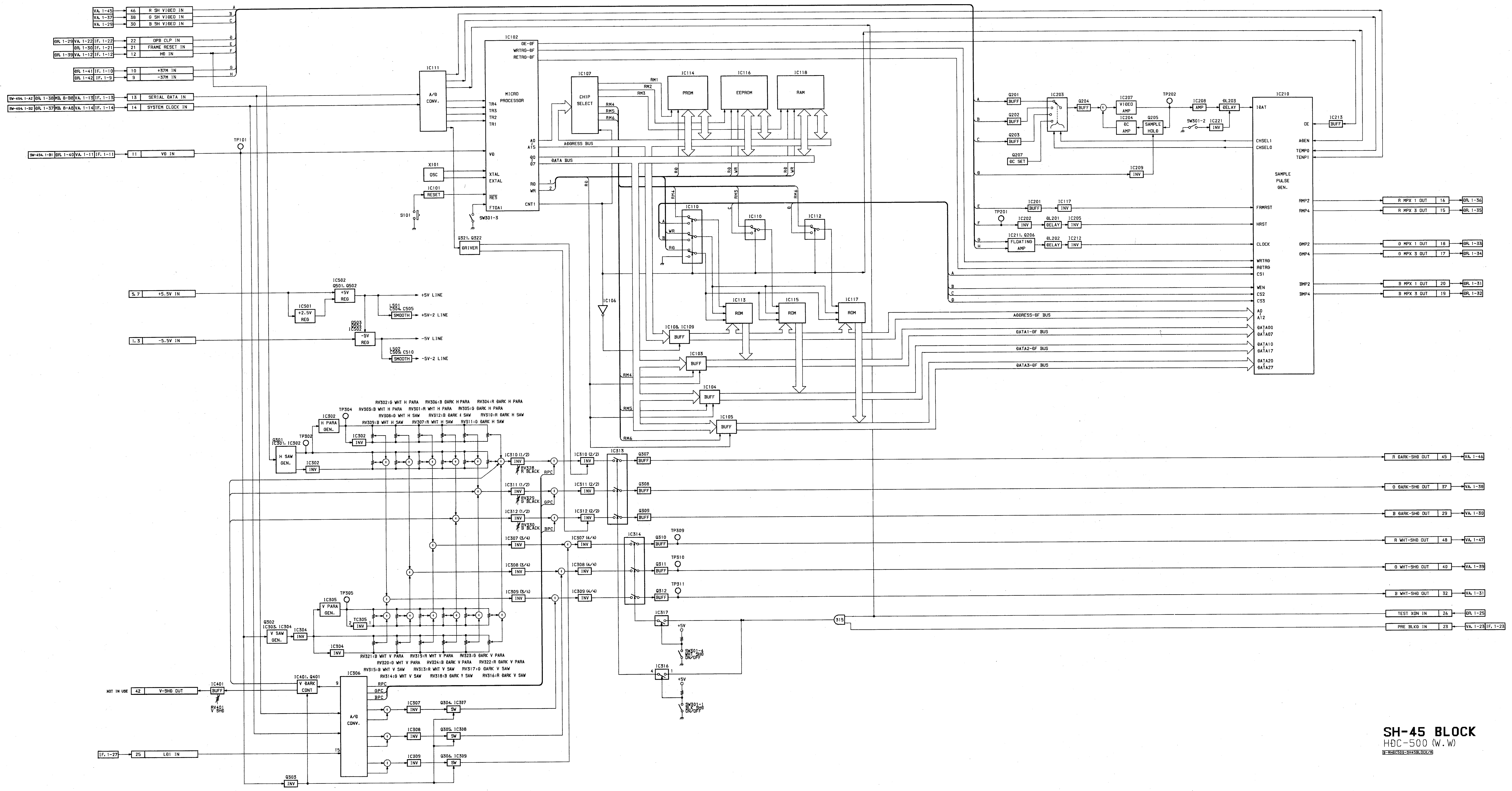
## VA-118 BLOCK


MB CN9 → CN1 48 R VIDEO IN
MB CN9 → CN1 49 R VIDEO GND
SH 1-45 → CN1 46 R BLACK SHD IN
SH 1-48 → CN1 47 R WHT SHD IN
MB CN10 → CN1 40 G VIDEO IN
MB CN10 → CN1 41 G VIDEO GND
SH 1-37 → CN1 38 G BLACK SHD IN
SH 1-40 → CN1 39 G WHT SHD IN
MB CN11 → CN1 32 B VIDEO IN
MB CN11 → CN1 33 B VIDEO GND
SH 1-29 → CN1 30 B BLACK SHD IN
MB 4-29 SH 1-22 IF 1-22 → CN1 22 OPB CLP IN
SH 1-32 → CN1 31 B WHT SHD IN
TEST SAW GEN.
IF 1-15 → CN1 9 TEST SAW CLK IN
MB 4-39 SH 1-12 IF 1-12 → CN1 12 HD IN
IF 1-16 → CN1 10 TEST STEP CLK IN
IF 1-18 → CN1 18 DIAG PULSE IN
IF 1-20 → CN1 20 CLAMP IN
SH 1-23 IF 1-23 → CN1 23 PRE BLKG IN
CN1 6, 8 UNREG (+) IN
CN1 5, 7 +5.5V IN
CN1 1, 3 -5.5V IN
IC13 Q5, Q8 +9V REG → +9V LINE
IC13 Q6, Q9 +5V REG → +5V LINE
IC13 Q7, Q10 -5V REG → -5V LINE
IC112 Q112, Q113 VIDEO AMP
IC312 Q312, Q313 VIDEO AMP
IC512 Q512, Q513 VIDEO AMP
FL101 LPF
FL301 LPF
FL501 LPF
IC101 VIDEO AMP
IC301 VIDEO AMP
IC501 VIDEO AMP
IC102 DC AMP
IC302 DC AMP
IC502 DC AMP
Q103 SAMPLE HOLD
Q303 SAMPLE HOLD
Q503 SAMPLE HOLD
RV101 R-BLACK
RV301 G-BLACK
RV501 B-BLACK
IC6 INV
IC4 BUFF
IC5, Q1 SAW GEN
Q2, Q3 HIGH LEVEL CLIP
IC9 AMP
TP2
IC6 PHASE/WIDTH SET
TP1
IC2, IC8 PULSE GEN.
Q4 BUFF
IC8 INV
IC1 BUFF
IC103
IC303
IC503
PRE BLKG
AMP
DRIVER
TP101
TP301
TP501
IC104 AMP
IC304 AMP
IC504 AMP
IC105 BUFF
IC305 BUFF
IC505 BUFF
Q104 GAIN SELECT
Q304 GAIN SELECT
Q504 GAIN SELECT
P0 P1 P2 P3
IC106, IC107 GAIN CONT
IC306, IC307 GAIN CONT
IC506, IC507 GAIN CONT
Q105 CONSTANT CURRENT SUPPLY
Q305 CONSTANT CURRENT SUPPLY
Q505 CONSTANT CURRENT SUPPLY
IC108 AMP
IC308 AMP
IC508 AMP
RV102 R GAIN
RV302 G GAIN
RV502 B GAIN
IC109 VIDEO AMP
IC309 VIDEO AMP
IC509 VIDEO AMP
TP102
TP302
TP502
IC107 DC AMP
IC307 DC AMP
IC507 DC AMP
Q106 SAMPLE HOLD
Q306 SAMPLE HOLD
Q506 SAMPLE HOLD
D102 LIMIT
D302 LIMIT
D502 LIMIT
IC107 AMP
IC307 AMP
IC507 AMP
Q107 BLKG CLEAN
Q307 BLKG CLEAN
Q507 BLKG CLEAN
IC110 GAIN CONT
IC310 GAIN CONT
IC510 GAIN CONT
RV103 R FLARE
RV303 G FLARE
RV503 B FLARE
RV104 R DC SET
RV304 B DC SET
RV504 B DC SET
Q108 BUFF
Q308 BUFF
Q508 BUFF
TP103
TP303
TP503
Q109-Q111 AMP
Q309-Q311 AMP
Q509-Q511 AMP
IC111 R VIDEO AMP
IC311 G VIDEO AMP
IC511 B VIDEO AMP
TP104
TP304
TP504
TP105
TP305
TP505
Q12-Q14 NAM
Q11 BUFF
IC17 AMP
IC15
IC16
9, 10, 11
IC12 I²C
IC14 D/A CONV.
A01 A02 A03 A04 A05 A06 A07 A08 A09 A10 A11 A12
IC1 BUFF
IC3 INV
IC6 INV
R SH-VIDEO OUT CN1 45 → SH 1-46
R VIDEO OUT CN1 43 → MB CN12
G SH-VIDEO OUT CN1 37 → SH 1-38
IRIS NAM OUT CN1 24 → IF 1-24
G VIDEO OUT CN1 35 → MB CN13
B SH-VIDEO OUT CN1 29 → SH 1-30
B VIDEO OUT CN1 27 → MB CN14
DIAG SMPL IN CN1 17 ← IF 1-17
SERIAL DATA IN CN1 13 ← IF 1-13 SH 1-13 MB 4-38 SW 1-A2 MB 8-B8
SYSTEM CLOCK IN CN1 14 ← IF 1-14 SH 1-14 MB 4-37 SW 1-B2 MB 8-A8
CHECK IN CN1 15 ← IF 1-25

**NOTE** Q112, Q312, Q512: ADDED
SER. No. 10301 and higher

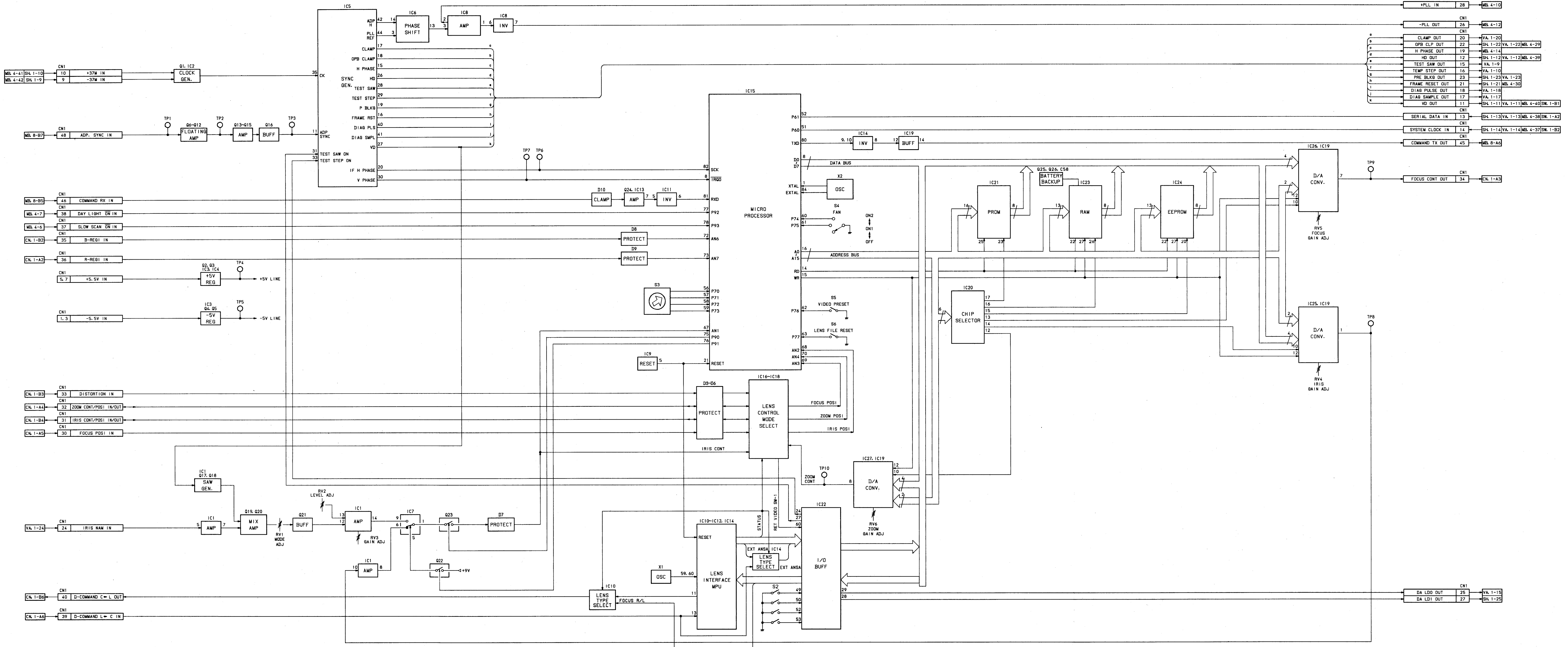
**VA-118 BLOCK**
HDC-500 (W. W)
B-HDC500-VA118BLOCK/M

## SH-45 BLOCK


VA. 1-45
VA. 1-37
VA. 1-29
46 R SH VIDEO IN
38 G SH VIDEO IN
30 B SH VIDEO IN
DR. 1-29 VA. 1-22 IF. 1-22
DR. 1-30 IF. 1-21
DR. 1-39 VA. 1-12 IF. 1-12
22 OPB CLP IN
21 FRAME RESET IN
12 HD IN
DR. 1-41 IF. 1-10
DR. 1-42 IF. 1-9
10 +37M IN
9 -37M IN
SW-494, 1-A2 DR. 1-38 MB, 8-B8 VA. 1-13 IF. 1-13
SW-494, 1-B2 DR. 1-37 MB, 8-A8 VA. 1-14 IF. 1-14
13 SERIAL DATA IN
14 SYSTEM CLOCK IN
TP101
SW-494, 1-B1 DR. 1-40 VA. 1-11 IF. 1-11
11 VD IN
A
B
C
D
E
F
G
H
IC111
A/D CONV.
IC102
MICRO PROCESSOR
OE-DF
WRTRG-DF
RETRG-DF
TR4
TR3
TR2
TR1
VD
XTAL
EXTAL
RES
FTOA1
A0 ~ A15
D0 ~ D7
RD
WR
CNT1
X101
OSC
IC101
RESET
S101
SW301-3
Q321, Q322
DRIVER
IC107
CHIP SELECT
RM1
RM2
RM3
RM4
RM5
RM6
IC114
PROM
IC116
EEPROM
IC118
RAM
ADDRESS BUS
DATA BUS
IC106
IC110
IC112
IC113
IC115
IC117
ROM
IC108, IC109
IC103
IC104
IC105
BUFF
5, 7 +5.5V IN
1, 3 -5.5V IN
IC502
Q501, Q502
+5V REG
IC501
+2.5V REG
Q503
Q504
IC502
-5V REG
L501
C504, C505
L502
C509, C510
SMOOTH
+5V LINE
+5V-2 LINE
-5V LINE
-5V-2 LINE
RV302:G WHT H PARA
RV306:B DARK H PARA
RV303:B WHT H PARA
RV301:R WHT H PARA
RV305:G DARK H PARA
RV308:G WHT H SAW
RV312:B DARK H SAW
RV309:B WHT H SAW
RV307:R WHT H SAW
RV311:G DARK H SAW
TP304
IC302
H PARA GEN.
TP302
Q301
IC301, IC302
H SAW GEN.
IC302
INV
TP305
IC305
V PARA GEN.
IC305
INV
Q302
IC303, IC304
V SAW GEN.
IC304
INV
RV321:B WHT V PARA
RV319:R WHT V PARA
RV320:G WHT V PARA
RV324:B DARK V PARA
RV315:B WHT V SAW
RV313:R WHT V SAW
RV314:G WHT V SAW
RV318:B DARK V SAW
IC306
A/D CONV.
RPC
GPC
BPC
IC401, Q401
V DARK CONT
IC401
BUFF
RV401
V SHD
NOT IN USE
42 V-SHD OUT
IF. 1-27
25 LD1 IN
IC307
IC308
IC309
INV
Q304, IC307
Q305, IC308
Q306, IC309
SW
Q303
INV
Q201
Q202
Q203
BUFF
Q207
DC SET
IC203
Q204
BUFF
IC207
VIDEO AMP
IC204
DC AMP
Q205
SAMPLE HOLD
TP202
IC208
AMP
DL203
DELAY
SW301-2
IC221
INV
IC209
INV
TP201
IC201
BUFF
IC117
INV
IC202
INV
DL201
DELAY
IC205
INV
IC211, Q206
FLOATING AMP
DL202
DELAY
IC212
INV
IC213
BUFF
IC210
SAMPLE PULSE GEN.
IDAT
CHSEL1
CHSEL0
FRMRST
HRST
CLOCK
WRTRG
RDTRG
CS1
WEN
CS2
CS3
A0 ~ A12
DATA00 ~ DATA07
DATA10 ~ DATA17
DATA20 ~ DATA27
OE
ADEN
TEMP0
TENP1
RMP2
RMP4
GMP2
GMP4
BMP2
BMP4
ADDRESS-DF BUS
DATA1-DF BUS
DATA2-DF BUS
DATA3-DF BUS
R MPX 1 OUT 16
R MPX 3 OUT 15
G MPX 1 OUT 18
G MPX 3 OUT 17
B MPX 1 OUT 20
B MPX 3 OUT 19
DR. 1-36
DR. 1-35
DR. 1-33
DR. 1-34
DR. 1-31
DR. 1-32
R DARK-SHD OUT 45
G DARK-SHD OUT 37
B DARK-SHD OUT 29
R WHT-SHD OUT 48
G WHT-SHD OUT 40
B WHT-SHD OUT 32
VA. 1-46
VA. 1-38
VA. 1-30
VA. 1-47
VA. 1-39
VA. 1-31
TEST XON IN 26
PRE BLKG IN 23
DR. 1-25
VA. 1-23 IF. 1-23

**SH-45 BLOCK**
HDC-500 (W.W)
B-¥HDC500-SH45BLOCK/M

## IF-345 BLOCK

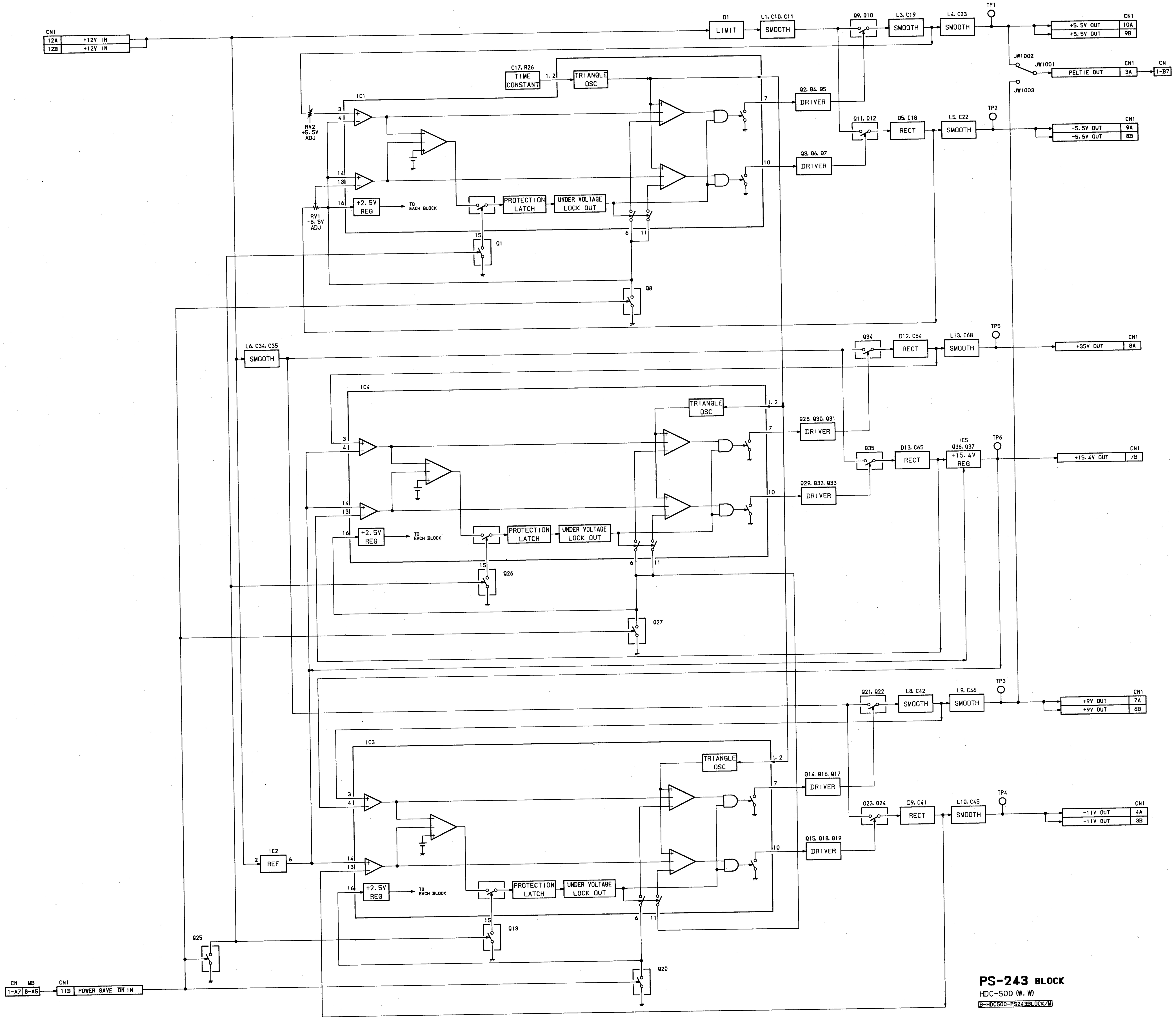

MB. 4-41 SH. 1-10
MB. 4-42 SH. 1-9
CN1 10 +37M IN
CN1 9 -37M IN
Q1, IC2 CLOCK GEN.
IC5
CK
ADP H
PLL REF
SYNC GEN.
CLAMP
OPB CLAMP
H PHASE
HD
TEST SAW
TEST STEP
P BLKG
FRAME RST
DIAG PLS
DIAG SMPL
VD
ADP SYNC
TEST SAW ON
TEST STEP ON
IF H PHASE
V PHASE
IC6 PHASE SHIFT
IC8 AMP
IC8 INV
MB. 8-B7
CN1 48 ADP. SYNC IN
TP1
Q6~Q12 FLOATING AMP
TP2
Q13~Q15 AMP
Q16 BUFF
TP3
TP7
TP6
MB. 8-B5
CN1 46 COMMAND RX IN
MB. 4-7
CN1 38 DAY LIGHT ON IN
MB. 4-6
CN1 37 SLOW SCAN ON IN
CN. 1-B2
CN1 35 B-REGI IN
CN. 1-A2
CN1 36 R-REGI IN
CN1 5, 7 +5.5V IN
Q2, Q3 IC3, IC4 +5V REG
TP4
+5V LINE
CN1 1, 3 -5.5V IN
IC3 Q4, Q5 -5V REG
TP5
-5V LINE
IC15
MICRO PROCESSOR
SCK
IRQ0
RXD
P92
P93
AN6
AN7
P70
P71
P72
P73
AN1
P90
P91
RESET
P61
P60
TXD
D0~D7
DATA BUS
XTAL
EXTAL
P74
P75
A0~A15
ADDRESS BUS
RD
WR
P76
P77
AN2
AN4
AN3
D10 CLAMP
Q24, IC13 AMP
IC11 INV
D8 PROTECT
D9 PROTECT
S3
IC9 RESET
IC14 INV
IC19 BUFF
X2 OSC
S4 FAN
ON2
ON1
OFF
S5 VIDEO PRESET
S6 LENS FILE RESET
Q25, Q26, C58 BATTERY BACKUP
IC21 PROM
IC23 RAM
IC24 EEPROM
IC20 CHIP SELECTOR
IC26, IC19 D/A CONV.
RV5 FOCUS GAIN ADJ
TP9
IC25, IC19 D/A CONV.
RV4 IRIS GAIN ADJ
TP8
CN. 1-B3
CN1 33 DISTORTION IN
CN. 1-A4
CN1 32 ZOOM CONT/POSI IN/OUT
CN. 1-B4
CN1 31 IRIS CONT/POSI IN/OUT
CN. 1-A5
CN1 30 FOCUS POSI IN
D3~D6 PROTECT
IC16~IC18 LENS CONTROL MODE SELECT
FOCUS POSI
ZOOM POSI
IRIS POSI
IRIS CONT
TP10
ZOOM CONT
IC27, IC19 D/A CONV.
RV6 ZOOM GAIN ADJ
IC1 Q17, Q18 SAW GEN.
VA. 1-24
CN1 24 IRIS NAM IN
IC1 AMP
Q19, Q20 MIX AMP
RV1 MODE ADJ
Q21 BUFF
RV2 LEVEL ADJ
IC1 AMP
RV3 GAIN ADJ
IC7
Q23
D7 PROTECT
Q22
+9V
IC1 AMP
STATUS
RET VIDEO SW-1
IC22 I/O BUFF
IC10~IC12, IC14
RESET
LENS INTERFACE MPU
EXT ANSA
IC14 LENS TYPE SELECT
X1 OSC
S2
IC10 LENS TYPE SELECT
FOCUS R/L
CN. 1-B6
CN1 40 D-COMMAND C→L OUT
CN. 1-A6
CN1 39 D-COMMAND L→C IN
CN1 28 +PLL IN MB. 4-10
CN1 26 -PLL OUT MB. 4-12
CN1 20 CLAMP OUT VA. 1-20
22 OPB CLP OUT SH. 1-22 VA. 1-22 MB. 4-29
19 H PHASE OUT MB. 4-14
12 HD OUT SH. 1-12 VA. 1-12 MB. 4-39
15 TEST SAW OUT VA. 1-9
16 TEMP STEP OUT VA. 1-10
23 PRE BLKG OUT SH. 1-23 VA. 1-23
21 FRAME RESET OUT SH. 1-21 MB. 4-30
18 DIAG PULSE OUT VA. 1-18
17 DIAG SAMPLE OUT VA. 1-17
11 VD OUT SH. 1-11 VA. 1-11 MB. 4-40 SW. 1-B1
CN1 13 SERIAL DATA IN SH. 1-13 VA. 1-13 MB. 4-38 SW. 1-A2
CN1 14 SYSTEM CLOCK IN SH. 1-14 VA. 1-14 MB. 4-37 SW. 1-B2
CN1 45 COMMAND TX OUT MB. 8-A6
CN1 34 FOCUS CONT OUT CN. 1-A3
CN1 25 DA LD0 OUT VA. 1-15
27 DA LD1 OUT SH. 1-25

**IF-345 BLOCK**

HDC-500 (W. W)

B-HDC500-IF345BLOCK/M

# PS-243 BLOCK

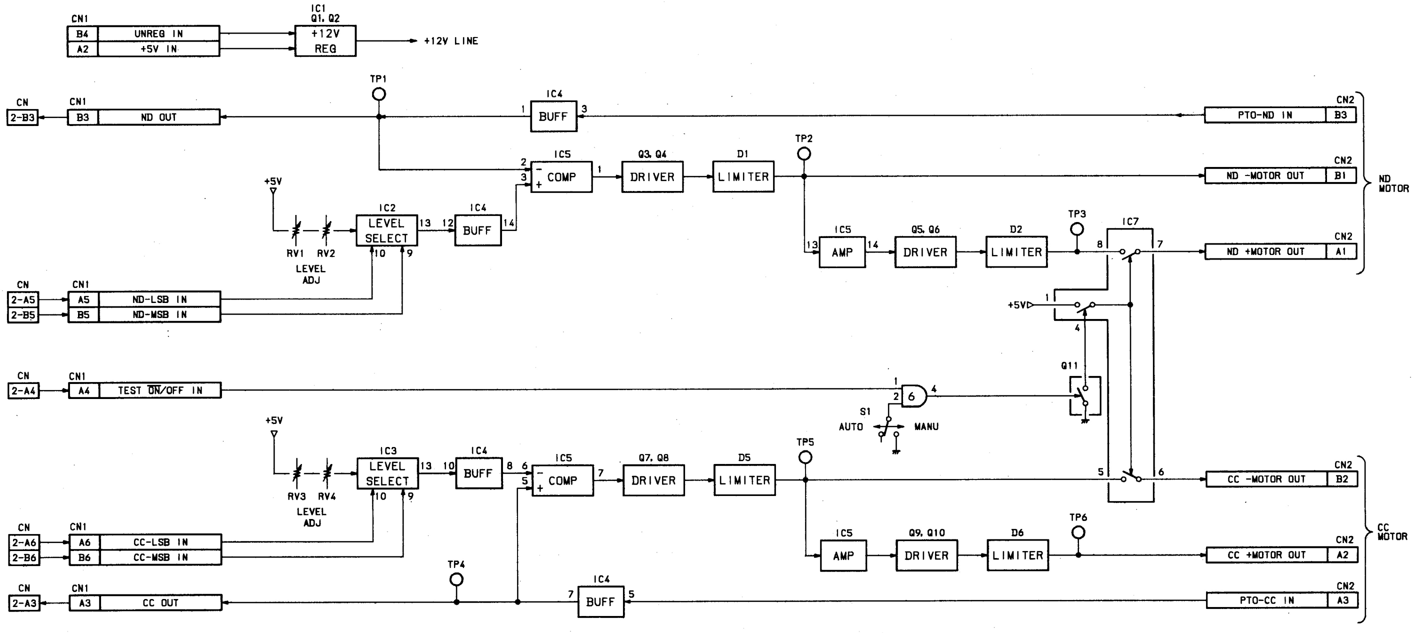

CN1
12A +12V IN
12B +12V IN
D1
LIMIT
L1, C10, C11
SMOOTH
Q9, Q10
L3, C19
SMOOTH
L4, C23
SMOOTH
TP1
CN1
+5.5V OUT 10A
+5.5V OUT 9B
JW1002
JW1001
PELTIE OUT
CN1 3A
CN 1-B7
JW1003
C17, R26
TIME CONSTANT
1, 2
TRIANGLE OSC
IC1
3
4
RV2 +5.5V ADJ
Q2, Q4, Q5
DRIVER
7
Q11, Q12
D5, C18
RECT
L5, C22
SMOOTH
TP2
CN1
-5.5V OUT 9A
-5.5V OUT 8B
14
13
16
+2.5V REG
TO EACH BLOCK
RV1 -5.5V ADJ
PROTECTION LATCH
UNDER VOLTAGE LOCK OUT
Q3, Q6, Q7
DRIVER
10
6
11
15
Q1
Q8
L6, C34, C35
SMOOTH
Q34
D12, C64
RECT
L13, C68
SMOOTH
TP5
CN1
+35V OUT 8A
IC4
TRIANGLE OSC
1, 2
Q28, Q30, Q31
DRIVER
7
Q35
D13, C65
RECT
IC5 Q36, Q37
+15.4V REG
TP6
CN1
+15.4V OUT 7B
Q29, Q32, Q33
DRIVER
10
3
4
14
13
16
+2.5V REG
TO EACH BLOCK
PROTECTION LATCH
UNDER VOLTAGE LOCK OUT
6
11
15
Q26
Q27
TP3
Q21, Q22
L8, C42
SMOOTH
L9, C46
SMOOTH
CN1
+9V OUT 7A
+9V OUT 6B
IC3
TRIANGLE OSC
1, 2
Q14, Q16, Q17
DRIVER
7
Q23, Q24
D9, C41
RECT
L10, C45
SMOOTH
TP4
CN1
-11V OUT 4A
-11V OUT 3B
Q15, Q18, Q19
DRIVER
10
IC2
2
REF
6
3
4
14
13
16
+2.5V REG
TO EACH BLOCK
PROTECTION LATCH
UNDER VOLTAGE LOCK OUT
6
11
15
Q13
Q25
Q20
CN MB
1-A7 8-A5
CN1
11B POWER SAVE ON IN

**PS-243 BLOCK**
HDC-500 (W. W)
B-HDC500-PS243BLOCK/M

1
2
3
4
5

A B C D E F G H

# SV-135 BLOCK

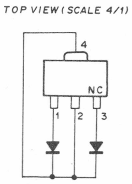

CN1
B4
UNREG IN
A2
+5V IN
IC1
Q1, Q2
+12V
REG
+12V LINE
TP1
CN
2-B3
CN1
B3
ND OUT
IC4
BUFF
1
3
CN2
PTO-ND IN
B3
IC5
2
3
COMP
1
Q3, Q4
DRIVER
D1
LIMITER
TP2
CN2
ND -MOTOR OUT
B1
ND
MOTOR
+5V
RV1
RV2
LEVEL
ADJ
IC2
LEVEL
SELECT
13
12
10
9
IC4
BUFF
14
IC5
13
AMP
14
Q5, Q6
DRIVER
D2
LIMITER
TP3
IC7
8
7
CN2
ND +MOTOR OUT
A1
CN
2-A5
2-B5
CN1
A5
ND-LSB IN
B5
ND-MSB IN
+5V
1
4
Q11
CN
2-A4
CN1
A4
TEST ON/OFF IN
1
2
6
4
S1
AUTO
MANU
+5V
RV3
RV4
LEVEL
ADJ
IC3
LEVEL
SELECT
13
10
10
9
IC4
BUFF
8
6
5
IC5
COMP
7
Q7, Q8
DRIVER
D5
LIMITER
TP5
5
6
CN2
CC -MOTOR OUT
B2
CN
2-A6
2-B6
CN1
A6
CC-LSB IN
B6
CC-MSB IN
IC5
AMP
Q9, Q10
DRIVER
D6
LIMITER
TP6
CN2
CC +MOTOR OUT
A2
CC
MOTOR
TP4
CN
2-A3
CN1
A3
CC OUT
IC4
7
BUFF
5
CN2
PTO-CC IN
A3

**SV-135 BLOCK**
HDC-500 (W. W)
B-HDC500-SV135BLOCK/M

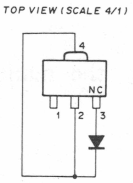
# SECTION B
# SEMICONDUCTOR PIN ASSIGNMENT

The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

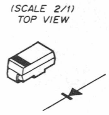
| TYPE | PAGE |
|---|---|
| 2SA1610 | B-2 |
| 2SA1611 | B-2 |
| 2SB1114 | B-2 |
| 2SC4173 | B-2 |
| 2SC4176 | B-2 |
| 2SC4177 | B-2 |
| 2SD1614 | B-2 |
| 2SJ182S | B-2 |
| 2SK1374 | B-2 |
| 2SK620 | B-2 |
| 2SK739 | B-2 |
| 3SK163 | B-2 |
| 74AC157SJ | B-3 |
| AD7542JP | B-3 |
| AQW214A | B-3 |
| AT27C512R-15JC | B-3 |
| CLC505AJE | B-3 |
| CXD1095Q | B-4 |
| EA30QS04-F | B-2 |
| EA60QC06-F | B-2 |
| EC10QS-06 | B-2 |
| EPM5064JC-1 | B-16 |
| HD637B01Y0F | B-5 |
| HD6475208F | B-6 |
| HD6475328CP10 | B-7 |
| HM6264ALFP-10 | B-8 |
| HN58C66FP-25 | B-8 |
| LM35DZ | B-8 |
| M62352GP | B-9 |
| MA141WA | B-2 |
| MA141WK | B-2 |
| MA143 | B-2 |
| MA728 | B-2 |
| MA8027-L | B-2 |
| MA8051-M | B-2 |
| MC14046BF | B-9 |
| MC14052BF | B-9 |
| MC14053BF | B-10 |
| MC14490F | B-10 |
| MC1495M | B-10 |
| MC34182M | B-10 |
| MC34184M | B-10 |
| PCF8574T | B-11 |
| PCF8591T | B-11 |
| REF-03GS | B-11 |
| SN74HC00ANS | B-17 |
| SN74HC04ANS | B-17 |
| SN74HC112ANS | B-12 |
| SN74HC157ANS | B-3 |
| SN74HC245ANS | B-12 |
| SN74HC541ANS | B-12 |
| SN74HC86ANS | B-12 |
| TC40H000F | B-12 |
| TC40H004F | B-12 |
| TC4S11F | B-12 |
| TC4S30F | B-13 |
| TC4S66F | B-13 |
| TC4S81F | B-13 |
| TC4W53F | B-13 |
| TC55B88J-10 | B-13 |
| TC74HC4052AF | B-14 |
| TC74HC4053AF | B-14 |
| TC74HC4538AF | B-14 |
| TC7S02F | B-17 |
| TC7S04F | B-14 |
| TC7S08F | B-14 |
| TC7SU04F | B-14 |
| TC7W04F | B-15 |
| TC9800FW | B-15 |
| TL062CPS | B-10 |
| TL1451CNS | B-15 |
| TL712CPS | B-15 |
| TL7705CPS-B | B-15 |
| TLC27M4CNS | B-15 |
| TLC339CNS | B-15 |
| UPA103G | B-16 |
| UPC311G2 | B-16 |
| UPC393G2 | B-16 |
| UPC4062G2 | B-16 |
| UPC4064G | B-16 |
| UPC814G2-1 | B-16 |


TOP VIEW (SCALE 4/1)
4
NC
1
2
3

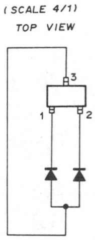
EA30QS04-F


TOP VIEW (SCALE 4/1)
4
NC
1
2
3

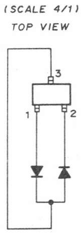
EA60QC06-F


(SCALE 2/1)
TOP VIEW

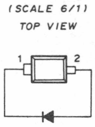
EC10QS-06


(SCALE 4/1)
TOP VIEW
3
1
2

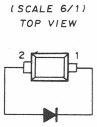
MA141WA
MA141WK


(SCALE 4/1)
TOP VIEW
3
1
2

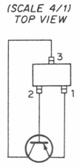
MA143


(SCALE 6/1)
TOP VIEW
1
2

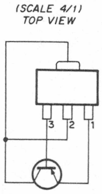
MA728


(SCALE 6/1)
TOP VIEW
2
1

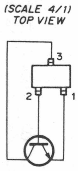
MA8027-L
MA8051-M


(SCALE 4/1)
TOP VIEW
3
2
1

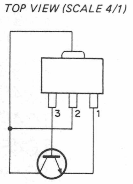
2SA1610
2SA1611


(SCALE 4/1)
TOP VIEW
3
2
1

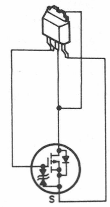
2SB1114


(SCALE 4/1)
TOP VIEW
3
2
1

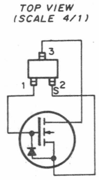
2SC4173
2SC4176
2SC4177


TOP VIEW (SCALE 4/1)
3
2
1

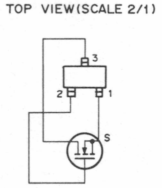
2SD1614



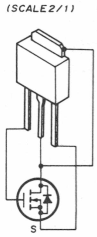
2SJ182S


TOP VIEW
(SCALE 4/1)
3
1
2
S

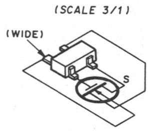
2SK1374


TOP VIEW (SCALE 2/1)
3
2
1
S

2SK620



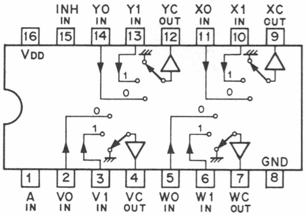
2SK739


(SCALE 3/1)
(WIDE)
S

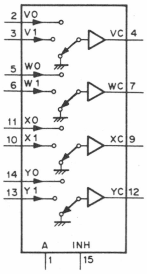
3SK163

## 74AC157SJ (NS) FLAT PACKAGE.
## SN74HC157ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
– TOP VIEW –



INH IN
Y0 IN
Y1 IN
YC OUT
X0 IN
X1 IN
XC OUT
VDD
GND
A IN
V0 IN
V1 IN
VC OUT
W0 IN
W1 IN
WC OUT



V0
V1
VC
W0
W1
WC
X0
X1
XC
Y0
Y1
YC
A
INH

NOTE :

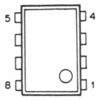
| TYPE | VDD |
|---|---|
| 74ACT157 | +5V |
| TC74AC157P<br>TC74AC157F | +2 to +5.5V |
| OTHER TYPES | +2 to +6V |

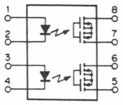
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

| CONT. IN | | ON CHANNEL |
|---|---|---|
| INH | A | |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | X | GND |

## AQW214A

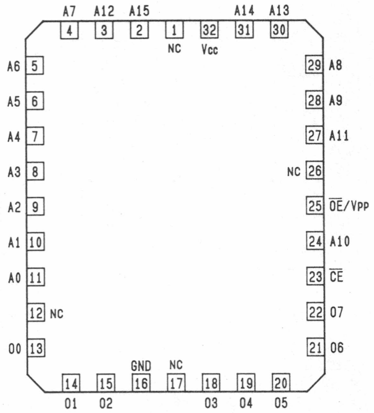
– TOP VIEW –



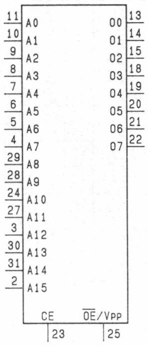


## AT27C512R-15JC

– BOTTOM VIEW –



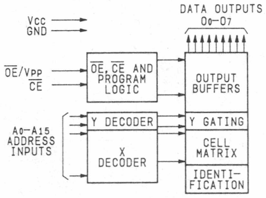
A7
A12
A15
A14
A13
NC
Vcc
A6
A5
A4
A3
A2
A1
A0
NC
O0
A8
A9
A11
NC
OE/VPP
A10
CE
O7
O6
GND
NC
O1
O2
O3
O4
O5



A0
A15
O0
O7
CE
OE/VPP

**INPUT**
A0–A15 ; ADDRESS BUS
CE ; CHIP ENABLE
OE/VPP ; OUTPUT ENABLE

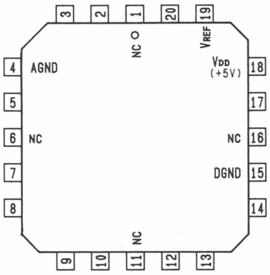
**OUTPUT**
O0–O7 ; DATA BUS



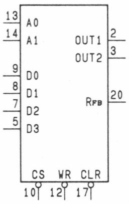
DATA OUTPUTS
O0–O7
Vcc
GND
OE/VPP
CE
OE, CE AND PROGRAM LOGIC
OUTPUT BUFFERS
A0–A15 ADDRESS INPUTS
Y DECODER
X DECODER
Y GATING
CELL MATRIX
IDENTI-FICATION

## AD7542JP (ANALOG DEVICES)

C-MOS 12-BIT D/A CONVERTER
– TOP VIEW –



AGND
NC
VREF
VDD (+5V)
NC
NC
DGND
NC

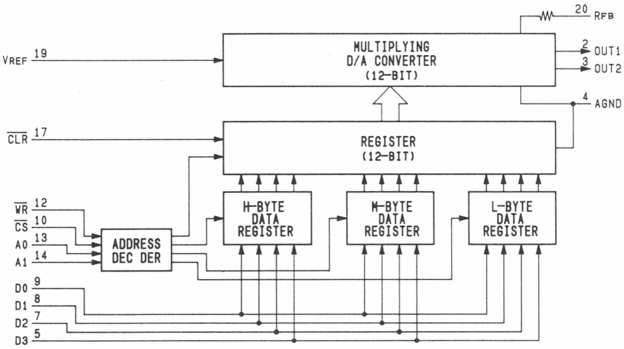


A0
A1
D0
D1
D2
D3
OUT1
OUT2
RFB
CS
WR
CLR

A0, A1 ;ADDRESS INPUTS
CLR ;REGISTER RESET
CS ;CHIP SELECT INPUT
D0–D3 ;DATA INPUTS
WR ;WRITE INPUT

(VDD=+5V)

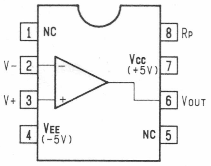
| Pin No | I/O | SIGNAL | Pin No | I/O | SIGNAL |
|---|---|---|---|---|---|
| 1 | – | NC | 11 | – | NC |
| 2 | O | OUT1 | 12 | I | WR |
| 3 | O | OUT2 | 13 | I | A0 |
| 4 | – | AGND | 14 | I | A1 |
| 5 | I | D3(MSB) | 15 | – | DGND |
| 6 | – | NC | 16 | – | NC |
| 7 | I | D2 | 17 | I | CLR |
| 8 | I | D1 | 18 | – | VDD |
| 9 | I | D0(LSB) | 19 | – | VREF |
| 10 | I | CS | 20 | – | RFB |



VREF 19
MULTIPLYING D/A CONVERTER (12-BIT)
20 RFB
2 OUT1
3 OUT2
4 AGND
CLR 17
REGISTER (12-BIT)
WR 12
CS 10
A0 13
A1 14
ADDRESS DEC DER
H-BYTE DATA REGISTER
M-BYTE DATA REGISTER
L-BYTE DATA REGISTER
D0 9
D1 8
D2 7
D3 5

## CLC505AJE (COMLINEAR) FLAT PACKAGE

OPERATIONAL AMPLIFIER
– TOP VIEW –

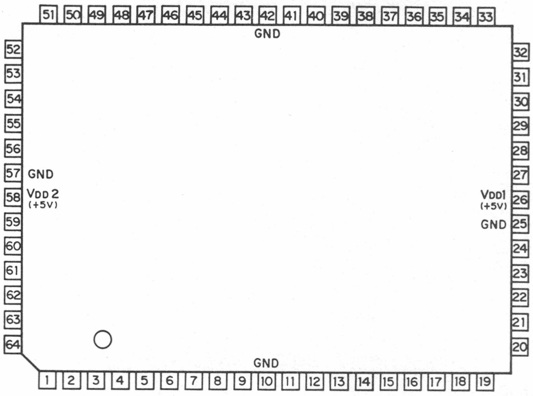


NC
V–
V+
VEE (–5V)
RP
Vcc (+5V)
VOUT
NC

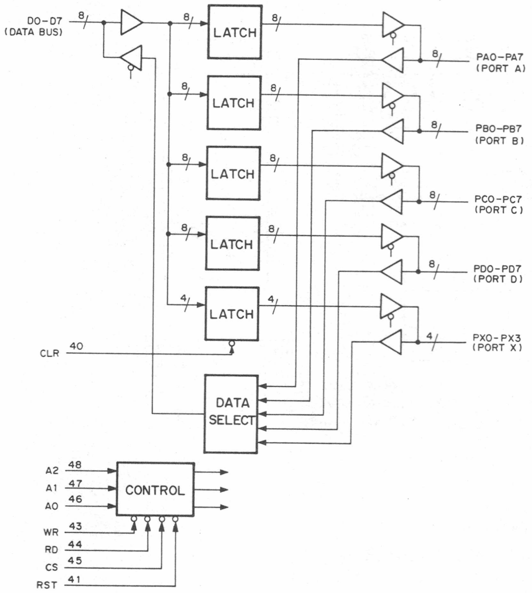
CXD1095Q (SONY) FLAT PACKAGE

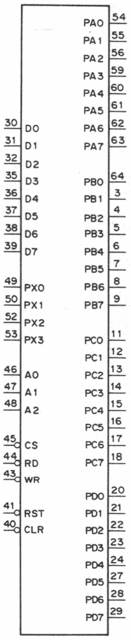
C-MOS I/O PORT EXPANDER

– TOP VIEW –


51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33
GND
52 53 54 55 56 57 58 59 60 61 62 63 64
GND
VDD 2 (+5V)
32 31 30 29 28 27 26 25 24 23 22 21 20
VDD1 (+5V)
GND
GND
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

| PIN NO. | IN | OUT | SYMBOL | PIN NO. | IN | OUT | SYMBOL | PIN NO. | IN | OUT | SYMBOL | PIN NO. | IN | OUT | SYMBOL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | NC | 17 | ○ | ○ | PC6 | 33 | | | NC | 49 | ○ | ○ | PX0 |
| 2 | | | NC | 18 | ○ | ○ | PC7 | 34 | | | NC | 50 | ○ | ○ | PX1 |
| 3 | ○ | ○ | PB1 | 19 | | | NC | 35 | ○ | ○ | D3 | 51 | | | NC |
| 4 | ○ | ○ | PB2 | 20 | ○ | ○ | PD0 | 36 | ○ | ○ | D4 | 52 | ○ | ○ | PX2 |
| 5 | ○ | ○ | PB3 | 21 | ○ | ○ | PD1 | 37 | ○ | ○ | D5 | 53 | ○ | ○ | PX3 |
| 6 | ○ | ○ | PB4 | 22 | ○ | ○ | PD2 | 38 | ○ | ○ | D6 | 54 | ○ | ○ | PA0 |
| 7 | ○ | ○ | PB5 | 23 | ○ | ○ | PD3 | 39 | ○ | ○ | D7 | 55 | ○ | ○ | PA1 |
| 8 | ○ | ○ | PB6 | 24 | ○ | ○ | PD4 | 40 | ○ | | CLR | 56 | ○ | ○ | PA2 |
| 9 | ○ | ○ | PB7 | 25 | | | GND | 41 | ○ | | RST | 57 | | | GND |
| 10 | | | GND | 26 | ○ | | VDD (+5V) | 42 | | | GND | 58 | ○ | | VDD (+5V) |
| 11 | ○ | ○ | PC0 | 27 | ○ | ○ | PD5 | 43 | ○ | | WR | 59 | ○ | ○ | PA3 |
| 12 | ○ | ○ | PC1 | 28 | ○ | ○ | PD6 | 44 | ○ | | RD | 60 | ○ | ○ | PA4 |
| 13 | ○ | ○ | PC2 | 29 | ○ | ○ | PD7 | 45 | ○ | | CS | 61 | ○ | ○ | PA5 |
| 14 | ○ | ○ | PC3 | 30 | ○ | ○ | D0 | 46 | ○ | | A0 | 62 | ○ | ○ | PA6 |
| 15 | ○ | ○ | PC4 | 31 | ○ | ○ | D1 | 47 | ○ | | A1 | 63 | ○ | ○ | PA7 |
| 16 | ○ | ○ | PC5 | 32 | ○ | ○ | D2 | 48 | ○ | | A2 | 64 | ○ | ○ | PB0 |


D0–D7 (DATA BUS)
8
LATCH
LATCH
LATCH
LATCH
LATCH
PA0–PA7 (PORT A)
PB0–PB7 (PORT B)
PC0–PC7 (PORT C)
PD0–PD7 (PORT D)
PX0–PX3 (PORT X)
4
CLR 40
DATA SELECT
A2 48
A1 47
A0 46
CONTROL
WR 43
RD 44
CS 45
RST 41


PA0 54
PA1 55
PA2 56
PA3 59
PA4 60
PA5 61
PA6 62
PA7 63
PB0 64
PB1 3
PB2 4
PB3 5
PB4 6
PB5 7
PB6 8
PB7 9
PC0 11
PC1 12
PC2 13
PC3 14
PC4 15
PC5 16
PC6 17
PC7 18
PD0 20
PD1 21
PD2 22
PD3 23
PD4 24
PD5 27
PD6 28
PD7 29
30 D0
31 D1
32 D2
35 D3
36 D4
37 D5
38 D6
39 D7
49 PX0
50 PX1
52 PX2
53 PX3
46 A0
47 A1
48 A2
45 CS
44 RD
43 WR
41 RST
40 CLR

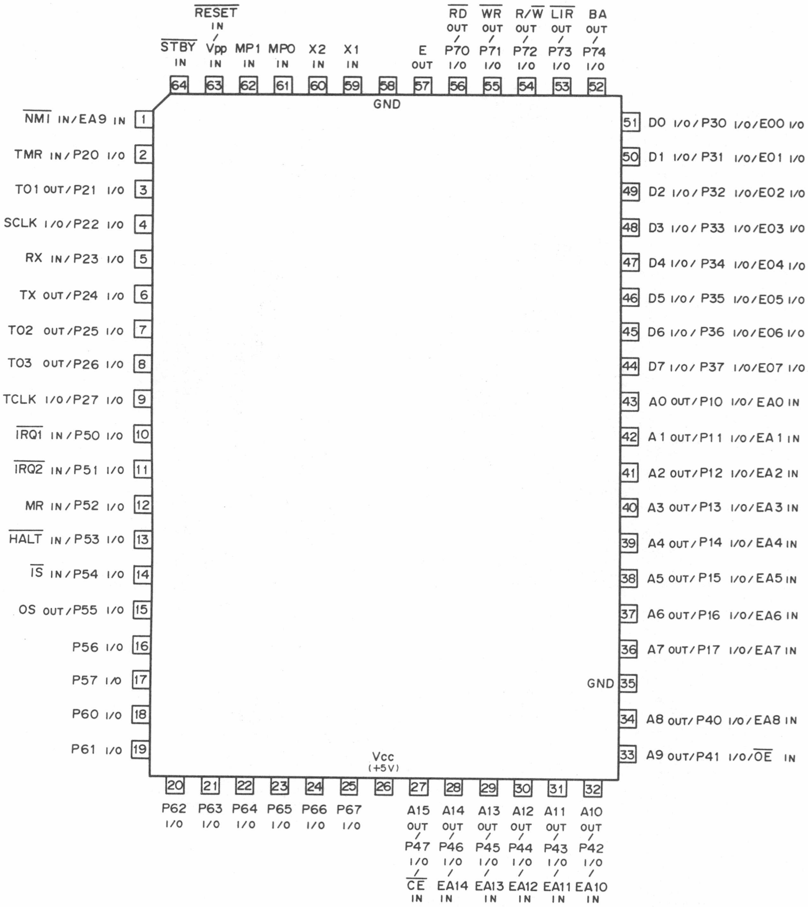
| CS | RD | WR | A2 | A1 | A0 | MODE |
|---|---|---|---|---|---|---|
| 0 | 0 | 1 | 0 | 0 | 0 | PORT A → DATA BUS |
| 0 | 0 | 1 | 0 | 0 | 1 | PORT B → DATA BUS |
| 0 | 0 | 1 | 0 | 1 | 0 | PORT C → DATA BUS |
| 0 | 0 | 1 | 0 | 1 | 1 | PORT D → DATA BUS |
| 0 | 0 | 1 | 1 | 0 | 0 | PORT X → DATA BUS |
| 0 | 0 | 1 | 1 | 0 | 1 | —— |
| 0 | 0 | 1 | 1 | 1 | 0 | —— |
| 0 | 0 | 1 | 1 | 1 | 1 | —— |
| 0 | 1 | 0 | 0 | 0 | 0 | DATA BUS → PORT A |
| 0 | 1 | 0 | 0 | 0 | 1 | DATA BUS → PORT B |
| 0 | 1 | 0 | 0 | 1 | 0 | DATA BUS → PORT C |
| 0 | 1 | 0 | 0 | 1 | 1 | DATA BUS → PORT D |
| 0 | 1 | 0 | 1 | 0 | 0 | DATA BUS → PORT X |
| 0 | 1 | 0 | 1 | 0 | 1 | —— |
| 0 | 1 | 0 | 1 | 1 | 0 | DATA BUS → CTL REG.1 |
| 0 | 1 | 0 | 1 | 1 | 1 | DATA BUS → CTL REG.2 |
| 1 | X | X | X | X | X | DATA BUS ; HI–Z |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI–Z, HIGH IMPEDANCE

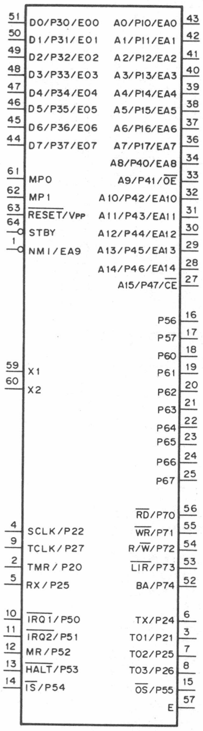
D0–D7 ; DATA BUS INPUTS/OUTPUTS
CS ; CHIP SELECT INPUT
RD ; READ STROBE INPUT
WR ; WRITE STROBE INPUT
A0–A2 ; ADDRESS INPUT
RST ; RESET INPUT
CLR ; CLEAR INPUT
PA0–PA7 ; PORT A INPUTS/OUTPUTS
PB0–PB7 ; PORT B INPUTS/OUTPUTS
PC0–PC7 ; PORT C INPUTS/OUTPUTS
PD0–PD7 ; PORT D INPUTS/OUTPUTS
PX0–PX3 ; PORT X INPUTS/OUTPUTS

HD637B01Y0F (HITACHI)

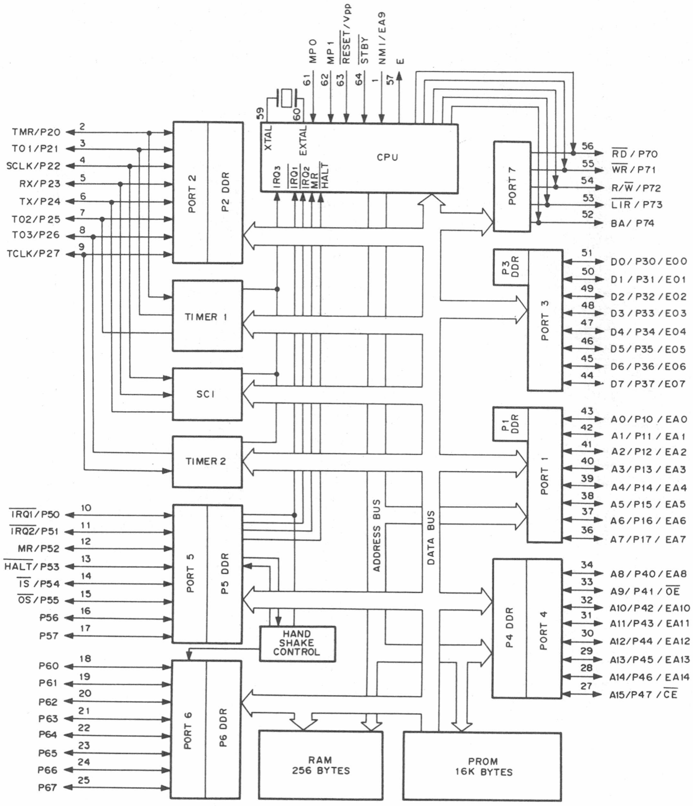
C-MOS ZTAT MICROCOMPUTER UNIT



1 NMI IN/EA9 IN
2 TMR IN/P20 I/O
3 TO1 OUT/P21 I/O
4 SCLK I/O/P22 I/O
5 RX IN/P23 I/O
6 TX OUT/P24 I/O
7 TO2 OUT/P25 I/O
8 TO3 OUT/P26 I/O
9 TCLK I/O/P27 I/O
10 IRQ1 IN/P50 I/O
11 IRQ2 IN/P51 I/O
12 MR IN/P52 I/O
13 HALT IN/P53 I/O
14 IS IN/P54 I/O
15 OS OUT/P55 I/O
16 P56 I/O
17 P57 I/O
18 P60 I/O
19 P61 I/O
20 P62 I/O
21 P63 I/O
22 P64 I/O
23 P65 I/O
24 P66 I/O
25 P67 I/O
26 Vcc (+5V)
27 A15 OUT/P47 I/O/CE IN
28 A14 OUT/P46 I/O/EA14 IN
29 A13 OUT/P45 I/O/EA13 IN
30 A12 OUT/P44 I/O/EA12 IN
31 A11 OUT/P43 I/O/EA11 IN
32 A10 OUT/P42 I/O/EA10 IN
33 A9 OUT/P41 I/O/OE IN
34 A8 OUT/P40 I/O/EA8 IN
35 GND
36 A7 OUT/P17 I/O/EA7 IN
37 A6 OUT/P16 I/O/EA6 IN
38 A5 OUT/P15 I/O/EA5 IN
39 A4 OUT/P14 I/O/EA4 IN
40 A3 OUT/P13 I/O/EA3 IN
41 A2 OUT/P12 I/O/EA2 IN
42 A1 OUT/P11 I/O/EA1 IN
43 A0 OUT/P10 I/O/EA0 IN
44 D7 I/O/P37 I/O/EO7 I/O
45 D6 I/O/P36 I/O/EO6 I/O
46 D5 I/O/P35 I/O/EO5 I/O
47 D4 I/O/P34 I/O/EO4 I/O
48 D3 I/O/P33 I/O/EO3 I/O
49 D2 I/O/P32 I/O/EO2 I/O
50 D1 I/O/P31 I/O/EO1 I/O
51 D0 I/O/P30 I/O/EO0 I/O
52 BA OUT/P74 I/O
53 LIR OUT/P73 I/O
54 R/W OUT/P72 I/O
55 WR OUT/P71 I/O
56 RD OUT/P70 I/O
57 E OUT
58 GND
59 X1 IN
60 X2 IN
61 MP0 IN
62 MP1 IN
63 RESET IN/Vpp IN
64 STBY IN



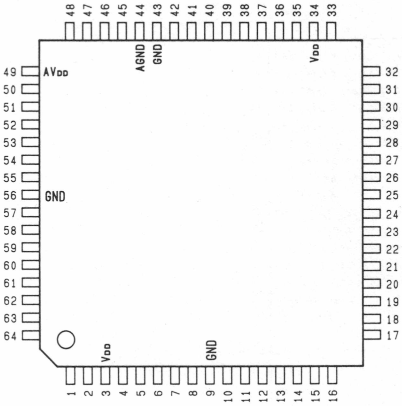
D0/P30/EO0
D1/P31/EO1
D2/P32/EO2
D3/P33/EO3
D4/P34/EO4
D5/P35/EO5
D6/P36/EO6
D7/P37/EO7
MP0
MP1
RESET/Vpp
STBY
NMI/EA9
X1
X2
SCLK/P22
TCLK/P27
TMR/P20
RX/P25
IRQ1/P50
IRQ2/P51
MR/P52
HALT/P53
IS/P54
A0/P10/EA0
A1/P11/EA1
A2/P12/EA2
A3/P13/EA3
A4/P14/EA4
A5/P15/EA5
A6/P16/EA6
A7/P17/EA7
A8/P40/EA8
A9/P41/OE
A10/P42/EA10
A11/P43/EA11
A12/P44/EA12
A13/P45/EA13
A14/P46/EA14
A15/P47/CE
P56
P57
P60
P61
P62
P63
P64
P65
P66
P67
RD/P70
WR/P71
R/W/P72
LIR/P73
BA/P74
TX/P24
TO1/P21
TO2/P25
TO3/P26
OS/P55
E

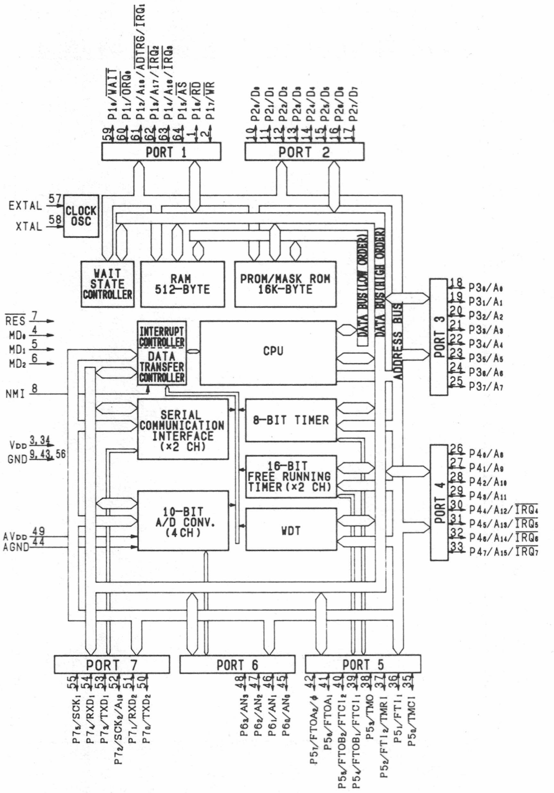


CPU
XTAL
EXTAL
PORT 2
P2 DDR
TIMER 1
SCI
TIMER 2
PORT 5
P5 DDR
HAND SHAKE CONTROL
PORT 6
P6 DDR
PORT 7
PORT 3
P3 DDR
PORT 1
P1 DDR
PORT 4
P4 DDR
ADDRESS BUS
DATA BUS
RAM 256 BYTES
PROM 16K BYTES

A0-A7/P10-P17/EA0-EA7
; ADDRESS BUS OUTPUTS /IO PORT 1 /PROM ADDRESS OUTPUTS
A8-A15/P40-P47/EA8-EA14
; ADDRESS BUS OUTPUTS /IO PORT 4 /PROM ADDRESS OUTPUTS
$\overline{\text{OE}}$ ; OUTPUT ENABLE INPUT
$\overline{\text{CE}}$ ; CHIP ENABLE INPUT
D0-D7/P30-P37/EO0-EO7
; DATA INPUTS/OUTPUTS /IO PORT 3 /PROM DATA INPUTS/OUTPUTS
P20-P27 ; IO PORT 2
P50-P57 ; IO PORT 5
P60-P67 ; IO PORT 6
P70-P74 ; IO PORT 7
MP0, MP1 ; OPERATION MODE SELECT INPUT
Vpp ; PROGRAM POWER SUPPLY
$\overline{\text{STBY}}$ ; STANDBY INPUT
$\overline{\text{NMI}}$ ; NON-MASKABLE INTERRUPT REQUEST INPUT
X1, X2 ; CRYSTAL CONNECTION
TMR ; TIMER INPUT
TO1, TO2, TO3 ; TIMER OUTPUT
RX ; SERIAL DATA INPUT
TX ; SERIAL DATA OUTPUT
$\overline{\text{IRQ1}}$, $\overline{\text{IRQ2}}$ ; INTERRUPT REQUEST INPUT
MR ; MEMORY READY INPUT
$\overline{\text{IS}}$, $\overline{\text{OS}}$ ; HAND SHAKE INTERFACE CONTROL SIGNAL INPUT, OUTPUT
$\overline{\text{RD}}$ ; READ OUTPUT
$\overline{\text{WR}}$ ; WRITE OUTPUT
R/$\overline{\text{W}}$ ; READ/WRITE OUTPUT
$\overline{\text{LIR}}$ ; LOAD INSTRUCTION REGISTER OUTPUT
BA ; BUS AVAILABLE OUTPUT
E ; ENABLE OUTPUT
SCLK ; SERIAL COMMUNICATION INTERFACE CLOCK INPUT/OUTPUT
TCLK ; TIMER CLOCK INPUT/OUTPUT

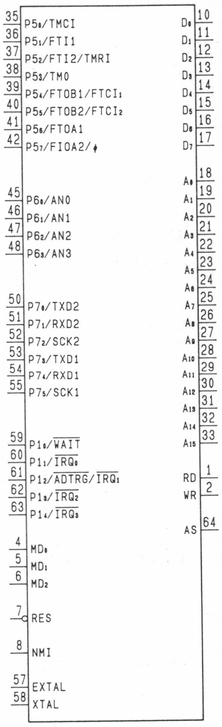
HD6475208F (HITACHI)
C-MOS
- TOP VIEW -


48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33
AGND
GND
VDD
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64
AVDD
GND
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17
VDD
GND
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

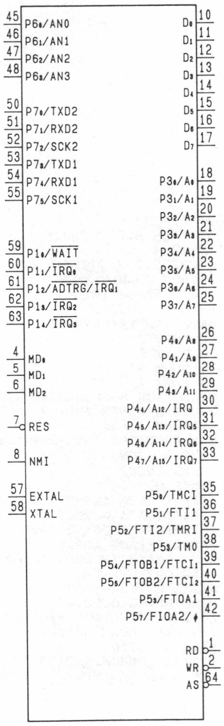

59 P1$_0$/$\overline{WAIT}$
60 P1$_1$/$\overline{IRQ_0}$
61 P1$_2$/A$_{18}$/$\overline{ADTRG}$/$\overline{IRQ_1}$
62 P1$_3$/A$_{17}$/$\overline{IRQ_2}$
63 P1$_4$/A$_{16}$/$\overline{IRQ_3}$
64 P1$_5$/$\overline{AS}$
1 P1$_6$/$\overline{RD}$
2 P1$_7$/$\overline{WR}$
PORT 1
10 P2$_0$/D$_0$
11 P2$_1$/D$_1$
12 P2$_2$/D$_2$
13 P2$_3$/D$_3$
14 P2$_4$/D$_4$
15 P2$_5$/D$_5$
16 P2$_6$/D$_6$
17 P2$_7$/D$_7$
PORT 2
EXTAL 57
XTAL 58
CLOCK OSC
WAIT STATE CONTROLLER
RAM 512-BYTE
PROM/MASK ROM 16K-BYTE
DATA BUS(LOW ORDER)
DATA BUS(HIGH ORDER)
ADDRESS BUS
$\overline{RES}$ 7
MD$_0$ 4
MD$_1$ 5
MD$_2$ 6
NMI 8
INTERRUPT CONTROLLER
DATA TRANSFER CONTROLLER
CPU
SERIAL COMMUNICATION INTERFACE (×2 CH)
8-BIT TIMER
16-BIT FREE RUNNING TIMER (×2 CH)
10-BIT A/D CONV. (4 CH)
WDT
V$_{DD}$ 3, 34
GND 9, 43, 56
AV$_{DD}$ 49
AGND 44
PORT 3
18 P3$_0$/A$_0$
19 P3$_1$/A$_1$
20 P3$_2$/A$_2$
21 P3$_3$/A$_3$
22 P3$_4$/A$_4$
23 P3$_5$/A$_5$
24 P3$_6$/A$_6$
25 P3$_7$/A$_7$
PORT 4
26 P4$_0$/A$_8$
27 P4$_1$/A$_9$
28 P4$_2$/A$_{10}$
29 P4$_3$/A$_{11}$
30 P4$_4$/A$_{12}$/$\overline{IRQ_4}$
31 P4$_5$/A$_{13}$/$\overline{IRQ_5}$
32 P4$_6$/A$_{14}$/$\overline{IRQ_6}$
33 P4$_7$/A$_{15}$/$\overline{IRQ_7}$
PORT 7
55 P7$_5$/SCK$_1$
54 P7$_4$/RXD$_1$
53 P7$_3$/TXD$_1$
52 P7$_2$/SCK$_2$/A$_{19}$
51 P7$_1$/RXD$_2$
50 P7$_0$/TXD$_2$
PORT 6
48 P6$_3$/AN$_3$
47 P6$_2$/AN$_2$
46 P6$_1$/AN$_1$
45 P6$_0$/AN$_0$
PORT 5
42 P5$_7$/FTOA$_2$/ϕ
41 P5$_6$/FTOA$_1$
40 P5$_5$/FTOB$_2$/FTCI$_2$
39 P5$_4$/FTOB$_1$/FTCI$_1$
38 P5$_3$/TMO
37 P5$_2$/FTI$_2$/TMRI
36 P5$_1$/FTI$_1$
35 P5$_0$/TMCI

| INPUTS | | | OPERATION MODE | CONTENTS |
|---|---|---|---|---|
| MD2 | MD1 | MD0 | | |
| 0 | 0 | 1 | MODE 1 | EXTENSION MINIMUM MODE (ROM INVALID) |
| 0 | 1 | 0 | MODE 2 | EXTENSION MINIMUM MODE (ROM VALID) |
| 0 | 1 | 1 | MODE 3 | EXTENSION MAXIMUM MODE (ROM INVALID) |
| 1 | 0 | 0 | MODE 4 | EXTENSION MAXIMUM MODE (ROM VALID) |
| 1 | 1 | 1 | MODE 7 | SINGLE CHIP MODE |

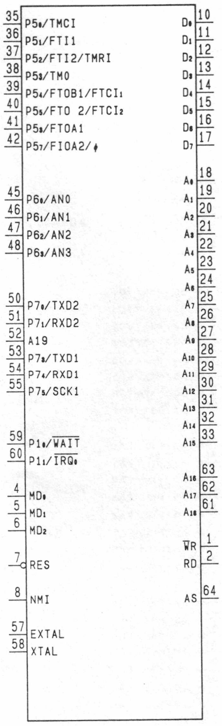
MODE 1


35 P5$_0$/TMCI
36 P5$_1$/FTI1
37 P5$_2$/FTI2/TMRI
38 P5$_3$/TM0
39 P5$_4$/FTOB1/FTCI$_1$
40 P5$_5$/FTOB2/FTCI$_2$
41 P5$_6$/FTOA1
42 P5$_7$/FIOA2/ϕ
45 P6$_0$/AN0
46 P6$_1$/AN1
47 P6$_2$/AN2
48 P6$_3$/AN3
50 P7$_0$/TXD2
51 P7$_1$/RXD2
52 P7$_2$/SCK2
53 P7$_3$/TXD1
54 P7$_4$/RXD1
55 P7$_5$/SCK1
59 P1$_0$/$\overline{WAIT}$
60 P1$_1$/$\overline{IRQ_0}$
61 P1$_2$/$\overline{ADTRG}$/$\overline{IRQ_1}$
62 P1$_3$/$\overline{IRQ_2}$
63 P1$_4$/$\overline{IRQ_3}$
4 MD$_0$
5 MD$_1$
6 MD$_2$
7 RES
8 NMI
57 EXTAL
58 XTAL
D$_0$ 10
D$_1$ 11
D$_2$ 12
D$_3$ 13
D$_4$ 14
D$_5$ 15
D$_6$ 16
D$_7$ 17
A$_0$ 18
A$_1$ 19
A$_2$ 20
A$_3$ 21
A$_4$ 22
A$_5$ 23
A$_6$ 24
A$_7$ 25
A$_8$ 26
A$_9$ 27
A$_{10}$ 28
A$_{11}$ 29
A$_{12}$ 30
A$_{13}$ 31
A$_{14}$ 32
A$_{15}$ 33
RD 1
WR 2
AS 64

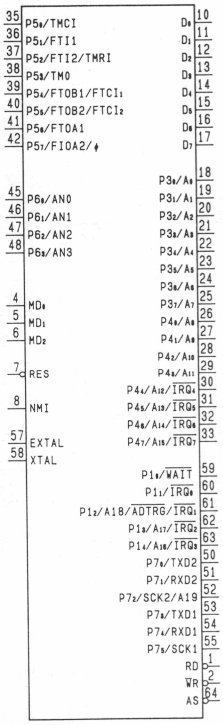
MODE 2


45 P6$_0$/AN0
46 P6$_1$/AN1
47 P6$_2$/AN2
48 P6$_3$/AN3
50 P7$_0$/TXD2
51 P7$_1$/RXD2
52 P7$_2$/SCK2
53 P7$_3$/TXD1
54 P7$_4$/RXD1
55 P7$_5$/SCK1
59 P1$_0$/$\overline{WAIT}$
60 P1$_1$/$\overline{IRQ_0}$
61 P1$_2$/$\overline{ADTRG}$/$\overline{IRQ_1}$
62 P1$_3$/$\overline{IRQ_2}$
63 P1$_4$/$\overline{IRQ_3}$
4 MD$_0$
5 MD$_1$
6 MD$_2$
7 RES
8 NMI
57 EXTAL
58 XTAL
D$_0$ 10
D$_1$ 11
D$_2$ 12
D$_3$ 13
D$_4$ 14
D$_5$ 15
D$_6$ 16
D$_7$ 17
P3$_0$/A$_0$ 18
P3$_1$/A$_1$ 19
P3$_2$/A$_2$ 20
P3$_3$/A$_3$ 21
P3$_4$/A$_4$ 22
P3$_5$/A$_5$ 23
P3$_6$/A$_6$ 24
P3$_7$/A$_7$ 25
P4$_0$/A$_8$ 26
P4$_1$/A$_9$ 27
P4$_2$/A$_{10}$ 28
P4$_3$/A$_{11}$ 29
P4$_4$/A$_{12}$/IRQ 30
P4$_5$/A$_{13}$/IRQ$_5$ 31
P4$_6$/A$_{14}$/IRQ$_6$ 32
P4$_7$/A$_{15}$/IRQ$_7$ 33
P5$_0$/TMCI 35
P5$_1$/FTI1 36
P5$_2$/FTI2/TMRI 37
P5$_3$/TM0 38
P5$_4$/FTOB1/FTCI$_1$ 39
P5$_5$/FTOB2/FTCI$_2$ 40
P5$_6$/FTOA1 41
P5$_7$/FIOA2/ϕ 42
RD 1
WR 2
AS 64

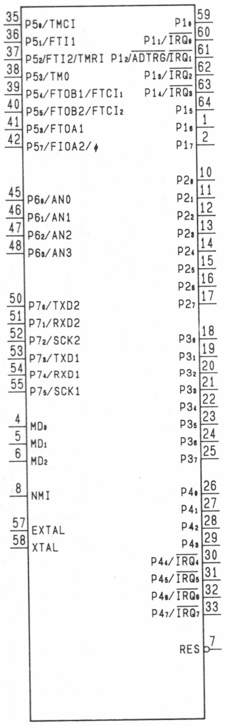
MODE 3


35 P5$_0$/TMCI
36 P5$_1$/FTI1
37 P5$_2$/FTI2/TMRI
38 P5$_3$/TM0
39 P5$_4$/FTOB1/FTCI$_1$
40 P5$_5$/FTO 2/FTCI$_2$
41 P5$_6$/FTOA1
42 P5$_7$/FIOA2/ϕ
45 P6$_0$/AN0
46 P6$_1$/AN1
47 P6$_2$/AN2
48 P6$_3$/AN3
50 P7$_0$/TXD2
51 P7$_1$/RXD2
52 A19
53 P7$_3$/TXD1
54 P7$_4$/RXD1
55 P7$_5$/SCK1
59 P1$_0$/$\overline{WAIT}$
60 P1$_1$/$\overline{IRQ_0}$
4 MD$_0$
5 MD$_1$
6 MD$_2$
7 RES
8 NMI
57 EXTAL
58 XTAL
D$_0$ 10
D$_1$ 11
D$_2$ 12
D$_3$ 13
D$_4$ 14
D$_5$ 15
D$_6$ 16
D$_7$ 17
A$_0$ 18
A$_1$ 19
A$_2$ 20
A$_3$ 21
A$_4$ 22
A$_5$ 23
A$_6$ 24
A$_7$ 25
A$_8$ 26
A$_9$ 27
A$_{10}$ 28
A$_{11}$ 29
A$_{12}$ 30
A$_{13}$ 31
A$_{14}$ 32
A$_{15}$ 33
A$_{16}$ 63
A$_{17}$ 62
A$_{18}$ 61
$\overline{WR}$ 1
RD 2
AS 64

MODE 4

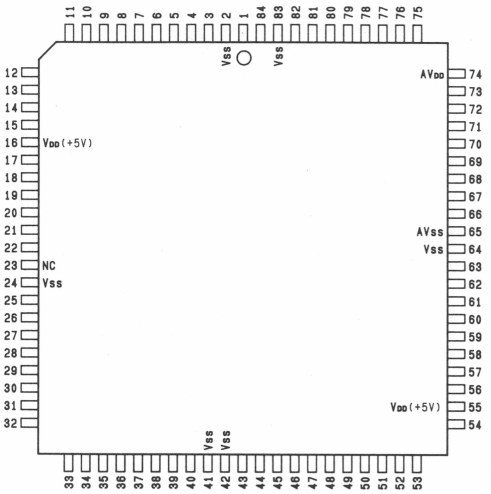

35 P5$_0$/TMCI
36 P5$_1$/FTI1
37 P5$_2$/FTI2/TMRI
38 P5$_3$/TM0
39 P5$_4$/FTOB1/FTCI$_1$
40 P5$_5$/FTOB2/FTCI$_2$
41 P5$_6$/FTOA1
42 P5$_7$/FIOA2/ϕ
45 P6$_0$/AN0
46 P6$_1$/AN1
47 P6$_2$/AN2
48 P6$_3$/AN3
4 MD$_0$
5 MD$_1$
6 MD$_2$
7 RES
8 NMI
57 EXTAL
58 XTAL
D$_0$ 10
D$_1$ 11
D$_2$ 12
D$_3$ 13
D$_4$ 14
D$_5$ 15
D$_6$ 16
D$_7$ 17
P3$_0$/A$_0$ 18
P3$_1$/A$_1$ 19
P3$_2$/A$_2$ 20
P3$_3$/A$_3$ 21
P3$_4$/A$_4$ 22
P3$_5$/A$_5$ 23
P3$_6$/A$_6$ 24
P3$_7$/A$_7$ 25
P4$_0$/A$_8$ 26
P4$_1$/A$_9$ 27
P4$_2$/A$_{10}$ 28
P4$_3$/A$_{11}$ 29
P4$_4$/A$_{12}$/$\overline{IRQ_4}$ 30
P4$_5$/A$_{13}$/$\overline{IRQ_5}$ 31
P4$_6$/A$_{14}$/$\overline{IRQ_6}$ 32
P4$_7$/A$_{15}$/$\overline{IRQ_7}$ 33
P1$_0$/$\overline{WAIT}$ 59
P1$_1$/$\overline{IRQ_0}$ 60
P1$_2$/A18/$\overline{ADTRG}$/$\overline{IRQ_1}$ 61
P1$_3$/A$_{17}$/$\overline{IRQ_2}$ 62
P1$_4$/A$_{16}$/$\overline{IRQ_3}$ 63
P7$_0$/TXD2 50
P7$_1$/RXD2 51
P7$_2$/SCK2/A19 52
P7$_3$/TXD1 53
P7$_4$/RXD1 54
P7$_5$/SCK1 55
RD 1
$\overline{WR}$ 2
AS 64

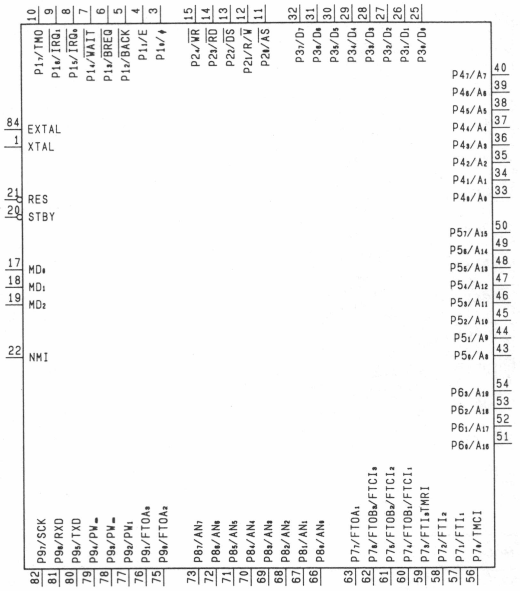
MODE 7


35 P5$_0$/TMCI
36 P5$_1$/FTI1
37 P5$_2$/FTI2/TMRI
38 P5$_3$/TM0
39 P5$_4$/FTOB1/FTCI$_1$
40 P5$_5$/FTOB2/FTCI$_2$
41 P5$_6$/FTOA1
42 P5$_7$/FIOA2/ϕ
45 P6$_0$/AN0
46 P6$_1$/AN1
47 P6$_2$/AN2
48 P6$_3$/AN3
50 P7$_0$/TXD2
51 P7$_1$/RXD2
52 P7$_2$/SCK2
53 P7$_3$/TXD1
54 P7$_4$/RXD1
55 P7$_5$/SCK1
4 MD$_0$
5 MD$_1$
6 MD$_2$
8 NMI
57 EXTAL
58 XTAL
P1$_0$ 59
P1$_1$/$\overline{IRQ_0}$ 60
P1$_2$/$\overline{ADTRG}$/$\overline{IRQ_1}$ 61
P1$_3$/$\overline{IRQ_2}$ 62
P1$_4$/$\overline{IRQ_3}$ 63
P1$_5$ 64
P1$_6$ 1
P1$_7$ 2
P2$_0$ 10
P2$_1$ 11
P2$_2$ 12
P2$_3$ 13
P2$_4$ 14
P2$_5$ 15
P2$_6$ 16
P2$_7$ 17
P3$_0$ 18
P3$_1$ 19
P3$_2$ 20
P3$_3$ 21
P3$_4$ 22
P3$_5$ 23
P3$_6$ 24
P3$_7$ 25
P4$_0$ 26
P4$_1$ 27
P4$_2$ 28
P4$_3$ 29
P4$_4$/$\overline{IRQ_4}$ 30
P4$_5$/$\overline{IRQ_5}$ 31
P4$_6$/$\overline{IRQ_6}$ 32
P4$_7$/$\overline{IRQ_7}$ 33
RES 7

## HD6475328CP10 (HITACHI)

16-BIT CPU
– TOP VIEW –


Vss
Vss
AVDD
VDD (+5V)
AVss
Vss
NC
Vss
VDD (+5V)
Vss
Vss


EXTAL
XTAL
RES
STBY
MD0
MD1
MD2
NMI

(VDD = +5V)

| PIN No. | I/O | SIGNAL | PIN No. | I/O | SIGNAL | PIN No. | I/O | SIGNAL |
|---|---|---|---|---|---|---|---|---|
| 1 | I | XTAL | 29 | I/O | P34/D4 | 57 | I/O | P71/FTI1 |
| 2 | – | Vss | 30 | I/O | P35/D5 | 58 | I/O | P72/FTI2 |
| 3 | I/O | P10/ϕ | 31 | I/O | P36/D6 | 59 | I/O | P73/FTI3/TMRI |
| 4 | I/O | P11/E | 32 | I/O | P37/D7 | 60 | I/O | P74/FTOB1/FTCI1 |
| 5 | I/O | P12/$\overline{BACK}$ | 33 | I/O | P40/A0 | 61 | I/O | P75/FTOB2/FTCI2 |
| 6 | I/O | P13/$\overline{BREQ}$ | 34 | I/O | P41/A1 | 62 | I/O | P76/FTOB3/FTCI3 |
| 7 | I/O | P14/$\overline{WAIT}$ | 35 | I/O | P42/A2 | 63 | O | P77/FTOA1 |
| 8 | I/O | P15/$\overline{IRQ0}$ | 36 | I/O | P43/A3 | 64 | – | Vss |
| 9 | I/O | P16/$\overline{IRQ1}$ | 37 | I/O | P44/A4 | 65 | – | AVss |
| 10 | I/O | P17/TMO | 38 | I/O | P45/A5 | 66 | I/O | P80/AN0 |
| 11 | I/O | P20/$\overline{AS}$ | 39 | I/O | P46/A6 | 67 | I/O | P81/AN1 |
| 12 | I/O | P21/R/$\overline{W}$ | 40 | I/O | P47/A7 | 68 | I/O | P82/AN2 |
| 13 | I/O | P22/$\overline{DS}$ | 41 | – | Vss | 69 | I/O | P83/AN3 |
| 14 | I/O | P23/$\overline{RD}$ | 42 | – | Vss | 70 | I/O | P84/AN4 |
| 15 | I/O | P24/$\overline{WR}$ | 43 | I/O | P50/A8 | 71 | I/O | P85/AN5 |
| 16 | – | Vcc | 44 | I/O | P51/A9 | 72 | I/O | P86/AN6 |
| 17 | I | MD0 | 45 | I/O | P52/A10 | 73 | I/O | P87/AN7 |
| 18 | I | MD1 | 46 | I/O | P53/A11 | 74 | – | AVcc |
| 19 | I | MD2 | 47 | I/O | P54/A12 | 75 | I/O | P90/FTOA2 |
| 20 | I | STBY | 48 | I/O | P55/A13 | 76 | I/O | P91/FTOA3 |
| 21 | I | RES | 49 | I/O | P56/A14 | 77 | I/O | P92/PW1 |
| 22 | I | NMI | 50 | I/O | P57/A15 | 78 | I/O | P93/PW2 |
| 23 | – | NC | 51 | I/O | P60/A16 | 79 | I/O | P94/PW3 |
| 24 | – | Vss | 52 | I/O | P61/A17 | 80 | I/O | P95/TXD |
| 25 | I/O | P30/D0 | 53 | I/O | P62/A18 | 81 | I/O | P96/RXD |
| 26 | I/O | P31/D1 | 54 | I/O | P63/A14 | 82 | I/O | P97/SCK |
| 27 | I/O | P32/D2 | 55 | – | Vcc | 83 | – | Vss |
| 28 | I/O | P33/D3 | 56 | I/O | P70/TMCI | 84 | I | EXTAL |

**INPUT**

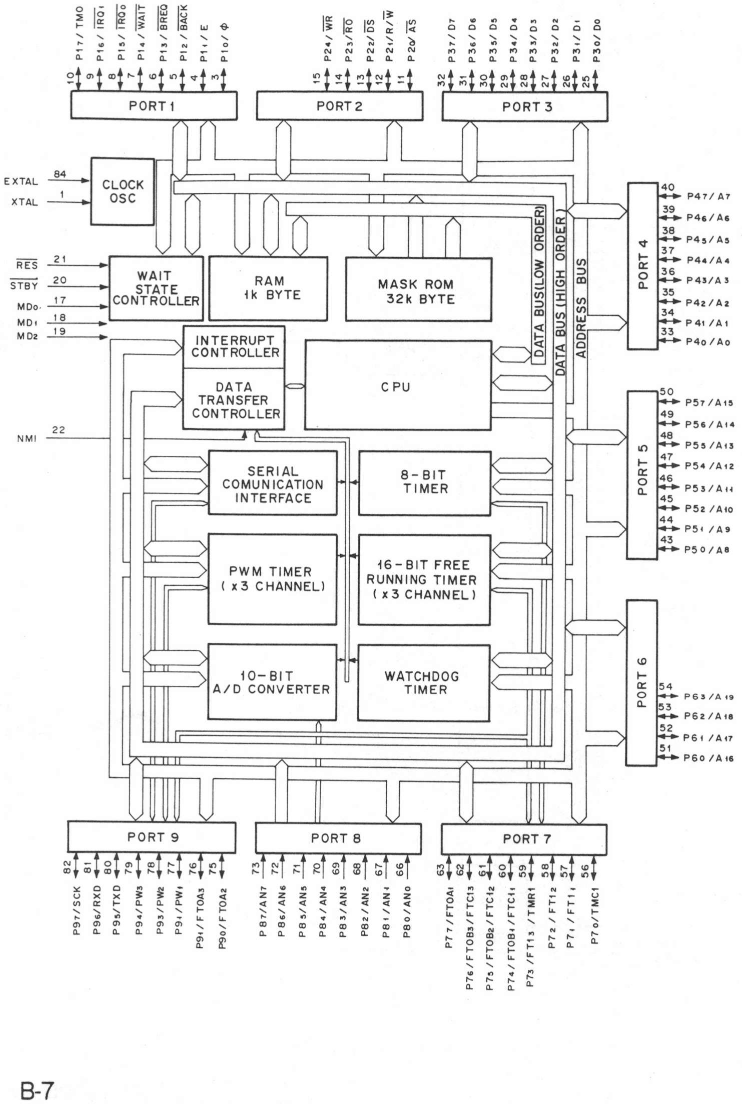
AN0 – AN7 ; ANALOG INPUT
BREQ ; BUS REQUEST
EXRAL ; CONNECTED TO CRYSTAL OSCILLATOR.
FTCI1 – FTCI3 ; FRT COUNTER CLOCK INPUT (CHANNEL 1 TO 3)
FTI1 – FTI3 ; FRT INPUT CAPTURE INPUT (CHANNEL 1 TO 3)
IRQ0, 1 ; INTERRUPTION REQUEST 0 AND 1
MD0 – MD2 ; MODE SETTING
NMI ; NON MASKABLE INTERRUPTION
P80 – P87 ; PORT 8
RES ; RESET
RXD ; RECEIVE DATA
SYBY ; STANDBY
TMCI ; 8-BIT TIMER CLOCK INPUT
TMRI ; 8-BIT TIMER COUNTER RESET INPUT
WAIT ; WAIT
XRAL ; CONNECTED TO CRYSTAL OSCILLATOR.

**OUTPUT**

A0 – A19 ; ADDRESS BUS
AS ; ADDRESS STROBE
BACK ; BUS REQUEST ACKNOWLEDGE
DS ; DATA STROBE
E ; ENABLE CLOCK
FTOA1 – FTOA3 ; FRT OUTPUT COMPARE A OUTPUT (CHANNEL 1 TO 3)
FTOB1 – FTOB3 ; FRT OUTPUT COMPARE B OUTPUT (CHANNEL 1 TO 3)
PW1 – PW3 ; PWM TIMER OUTPUT (CHANNEL 1 TO 3)
R/W ; READ/WRITE
RD ; READ
TMO ; 8-BIT TIMER OUTPUT
TXD ; SEND DATA
WR ; WRITE
ϕ ; SYSTEM CLOCK

**INPUT/OUTPUT**

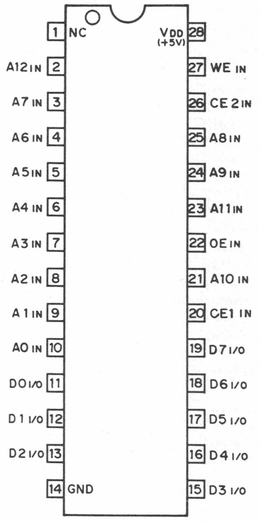
D0 – D7 ; DATA BUS
P10 – P17 ; PORT 1
P20 – P24 ; PORT 2
P30 – P37 ; PORT 3
P40 – P47 ; PORT 4
P50 – P57 ; PORT 5
P60 – P63 ; PORT 6
P70 – P77 ; PORT 7
P90 – P97 ; PORT 9
SCK ; SERIAL CLOCK INPUT/OUTPUT

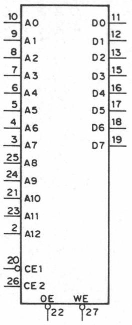

PORT 1
PORT 2
PORT 3
EXTAL
XTAL
CLOCK OSC
RES
STBY
MD0
MD1
MD2
WAIT STATE CONTROLLER
RAM 1k BYTE
MASK ROM 32k BYTE
INTERRUPT CONTROLLER
DATA TRANSFER CONTROLLER
CPU
NMI
DATA BUS (LOW ORDER)
DATA BUS (HIGH ORDER)
ADDRESS BUS
PORT 4
PORT 5
PORT 6
SERIAL COMUNICATION INTERFACE
8-BIT TIMER
PWM TIMER (x3 CHANNEL)
16-BIT FREE RUNNING TIMER (x3 CHANNEL)
10-BIT A/D CONVERTER
WATCHDOG TIMER
PORT 9
PORT 8
PORT 7

HM6264ALFP-10 (HITACHI) (ACCESS TIME = 100nS)

C-MOS 64K (8192x8)-BIT STATIC RAM

– TOP VIEW –


1 NC
2 A12 IN
3 A7 IN
4 A6 IN
5 A5 IN
6 A4 IN
7 A3 IN
8 A2 IN
9 A1 IN
10 A0 IN
11 D0 I/O
12 D1 I/O
13 D2 I/O
14 GND
28 VDD (+5V)
27 WE IN
26 CE 2 IN
25 A8 IN
24 A9 IN
23 A11 IN
22 OE IN
21 A10 IN
20 CE1 IN
19 D7 I/O
18 D6 I/O
17 D5 I/O
16 D4 I/O
15 D3 I/O

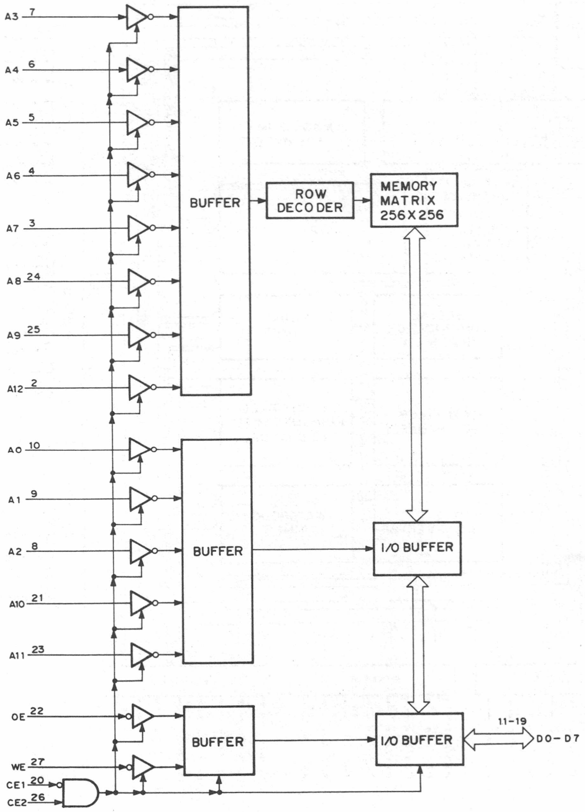

10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
20 CE1
26 CE2
OE 22
WE 27
D0 11
D1 12
D2 13
D3 15
D4 16
D5 17
D6 18
D7 19

A0–A12 ; ADDRESS INPUTS
CE1, CE2 ; CHIP ENABLE 1, 2 INPUTS
D0–D7 ; DATA INPUTS/OUTPUTS
OE ; OUTPUT ENABLE INPUT
WE ; WRITE ENABLE INPUT

MODE SELECTION

| CONTROL INPUTS | | | | MODE |
|---|---|---|---|---|
| CE1 | CE2 | OE | WE | |
| 1 | X | X | X | NO CHANGE |
| X | 0 | X | X | NO CHANGE |
| 0 | 1 | 1 | 1 | DISABLE OUTPUT |
| 0 | 1 | 0 | 1 | READ |
| 0 | 1 | X | 0 | WRITE |

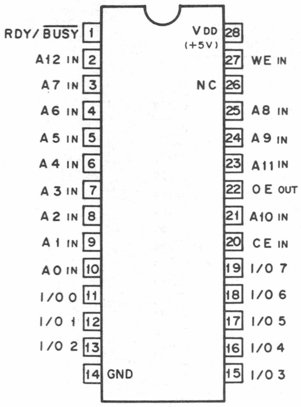
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

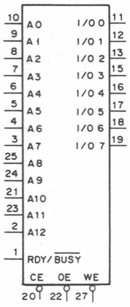

A3 7
A4 6
A5 5
A6 4
A7 3
A8 24
A9 25
A12 2
A0 10
A1 9
A2 8
A10 21
A11 23
OE 22
WE 27
CE1 20
CE2 26
BUFFER
ROW DECODER
MEMORY MATRIX 256X256
BUFFER
I/O BUFFER
BUFFER
I/O BUFFER
11–19
D0 – D7

HN58C66FP-25 (HITACHI)

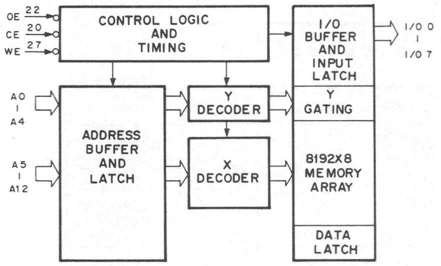
C-MOS 64K (8192x8)-BIT EEPROM

– TOP VIEW –


RDY/$\overline{\text{BUSY}}$ 1
A12 IN 2
A7 IN 3
A6 IN 4
A5 IN 5
A4 IN 6
A3 IN 7
A2 IN 8
A1 IN 9
A0 IN 10
I/O 0 11
I/O 1 12
I/O 2 13
14 GND
VDD (+5V) 28
27 WE IN
NC 26
25 A8 IN
24 A9 IN
23 A11 IN
22 OE OUT
21 A10 IN
20 CE IN
19 I/O 7
18 I/O 6
17 I/O 5
16 I/O 4
15 I/O 3


10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
1 RDY/$\overline{\text{BUSY}}$
CE 20
OE 22
WE 27
I/O 0 11
I/O 1 12
I/O 2 13
I/O 3 15
I/O 4 16
I/O 5 17
I/O 6 18
I/O 7 19

A0 – A12 ; ADDRESS INPUTS
CE ; CHIP ENABLE INPUT
I/O0 – I/O7 ; DATA INPUTS/OUTPUTS
OE ; OUTPUT ENABLE
RDY/$\overline{\text{BUSY}}$ ; READY/$\overline{\text{BUSY}}$ OUTPUT
WE ; WRITE ENABLE INPUT

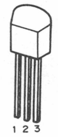

OE 22
CE 20
WE 27
CONTROL LOGIC AND TIMING
I/O BUFFER AND INPUT LATCH
I/O 0 – I/O 7
A0 – A4
A5 – A12
ADDRESS BUFFER AND LATCH
Y DECODER
Y GATING
X DECODER
8192X8 MEMORY ARRAY
DATA LATCH

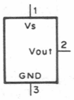
| CE | OE | WE | RDY/$\overline{\text{BUSY}}$ | I/O TERMINAL | FUNCTION |
|---|---|---|---|---|---|
| 0 | 0 | 1 | HI-Z | DOUT | READ |
| 1 | X | X | HI-Z | HI-Z | STANDBY |
| 0 | 1 | 0 | HI-Z → LOW | DIN | WRITE |
| 0 | 1 | 1 | HI-Z | HI-Z | DESELECT |
| X | X | 1 | HI-Z | – | WRITE INH |
| X | 0 | X | HI-Z | – | WRITE INH |
| 0 | 0 | 1 | LOW | DATA OUT (I/O7) | DATA POLLING |

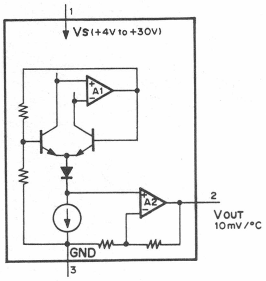
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

LM35DZ (NS)

BIPOLAR TEMPERATURE SENSOR

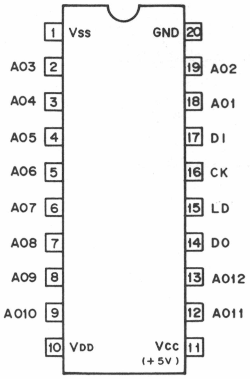


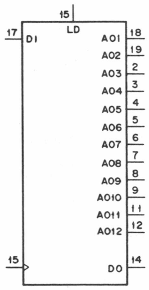

1
Vs
Vout 2
GND
3


1
Vs (+4V to +30V)
A1
A2
2
VOUT 10mV/°C
GND
3

## M62352GP (MITSUBISHI) FLAT PACKAGE

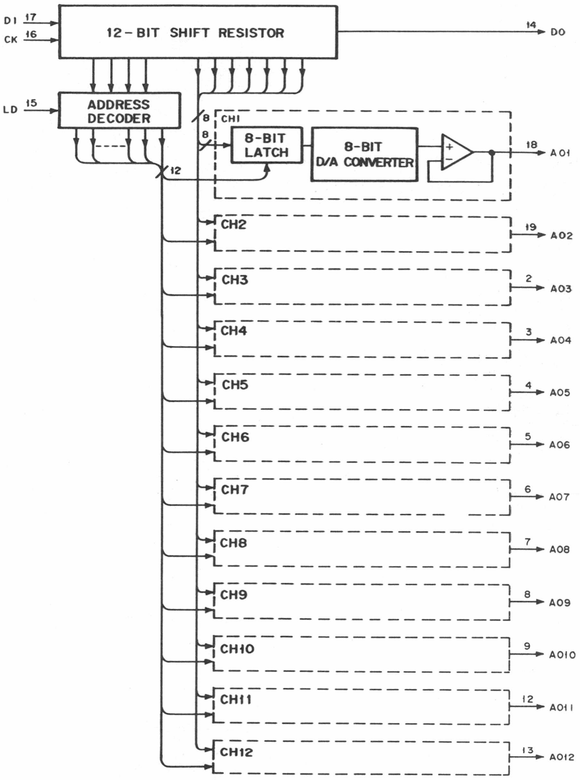
C-MOS 8-BITx12 CHANNEL D/A CONVERTER
(WITH BUFFER OPERATIONAL AMPLIFIER)
– TOP VIEW –


1 Vss
GND 20
A03 2
19 A02
A04 3
18 A01
A05 4
17 DI
A06 5
16 CK
A07 6
15 LD
A08 7
14 DO
A09 8
13 A012
A010 9
12 A011
10 VDD
Vcc (+5V) 11


15
LD
17 DI
A01 18
A02 19
A03 2
A04 3
A05 4
A06 5
A07 6
A08 7
A09 8
A010 9
A011 11
A012 12
15
DO 14

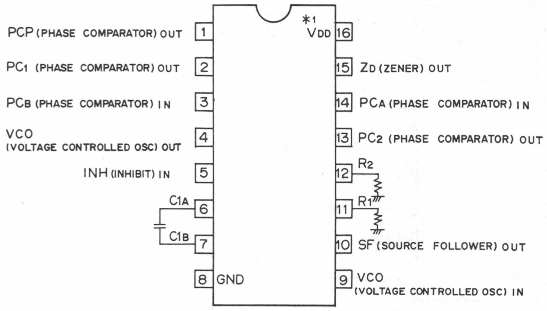
A01 – A012 ; 8-BIT D/A OUTPUT
CK ; CLOCK INPUT
DI ; SERIAL DATA INPUT
DO ; DATA OUTPUT

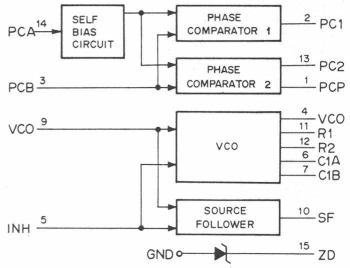
NOTE :
$3.5V < V_{DD} < V_{cc}$
$-3.5V < V_{ss} < V_{cc}$

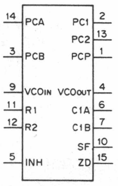

DI 17
CK 16
12-BIT SHIFT RESISTOR
14 DO
LD 15
ADDRESS DECODER
8
CH1
8
8-BIT LATCH
8-BIT D/A CONVERTER
12
18 A01
CH2
19 A02
CH3
2 A03
CH4
3 A04
CH5
4 A05
CH6
5 A06
CH7
6 A07
CH8
7 A08
CH9
8 A09
CH10
9 A010
CH11
12 A011
CH12
13 A012

## MC14046BF (MOTOROLA) FLAT PACKAGE

C-MOS PHASE LOCKED LOOP
– TOP VIEW –


PCP (PHASE COMPARATOR) OUT 1
PC1 (PHASE COMPARATOR) OUT 2
PCB (PHASE COMPARATOR) IN 3
VCO (VOLTAGE CONTROLLED OSC) OUT 4
INH (INHIBIT) IN 5
C1A 6
C1B 7
8 GND
*1 VDD 16
15 ZD (ZENER) OUT
14 PCA (PHASE COMPARATOR) IN
13 PC2 (PHASE COMPARATOR) OUT
12 R2
11 R1
10 SF (SOURCE FOLLOWER) OUT
9 VCO (VOLTAGE CONTROLLED OSC) IN


PCA 14
SELF BIAS CIRCUIT
PHASE COMPARATOR 1
2 PC1
PHASE COMPARATOR 2
13 PC2
1 PCP
PCB 3
VCO 9
VCO
4 VCO
11 R1
12 R2
6 C1A
7 C1B
INH 5
SOURCE FOLLOWER
10 SF
GND
15 ZD

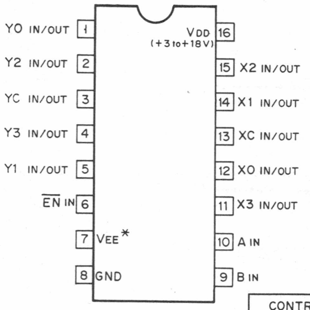

14 PCA
PC1 2
PC2 13
3 PCB
PCP 1
9 VCOIN
VCOOUT 4
11 R1
C1A 6
12 R2
C1B 7
SF 10
5 INH
ZD 15

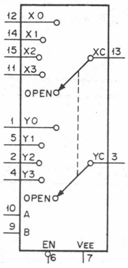
*1

| TYPE | VDD |
|---|---|
| CD4046BE<br>HD14046BP<br>MC14046BCP<br>MC14046BF<br>TC4046BP | +3 to +8V |
| MC74HC4046AN | +2 to +6V |

## MC14052BF (MOTOROLA) FLAT PACKAGE

C-MOS DUAL 4-CHANNEL ANALOG MULTIPLEXERS/DEMULTIPLEXERS
– TOP VIEW –


Y0 IN/OUT 1
Y2 IN/OUT 2
YC IN/OUT 3
Y3 IN/OUT 4
Y1 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+3 to +18V) 16
15 X2 IN/OUT
14 X1 IN/OUT
13 XC IN/OUT
12 X0 IN/OUT
11 X3 IN/OUT
10 A IN
9 B IN


12 X0
14 X1
15 X2
11 X3
OPEN
XC 13
1 Y0
5 Y1
2 Y2
4 Y3
OPEN
YC 3
10 A
9 B
EN 6
VEE 7

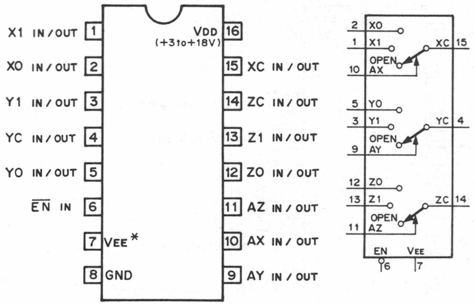
VEE*; VDD – VEE = +3 to +18V

| CONTROL INPUTS | | | "ON" CHANNEL |
|---|---|---|---|
| EN | B | A | |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 2 |
| 0 | 1 | 1 | 3 |
| 1 | X | X | OPEN |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

## MC14053BF (MOTOROLA) FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXERS/DEMULTIPLEXERS
– TOP VIEW –


X1 IN/OUT 1
X0 IN/OUT 2
Y1 IN/OUT 3
YC IN/OUT 4
Y0 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD 16 (+3 to +18V)
15 XC IN/OUT
14 ZC IN/OUT
13 Z1 IN/OUT
12 Z0 IN/OUT
11 AZ IN/OUT
10 AX IN/OUT
9 AY IN/OUT
X0 X1 OPEN AX XC
Y0 Y1 OPEN AY YC
Z0 Z1 OPEN AZ ZC
EN VEE

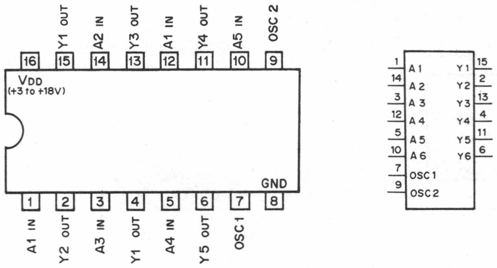
VEE*; VDD−VEE = +3 to +18 V

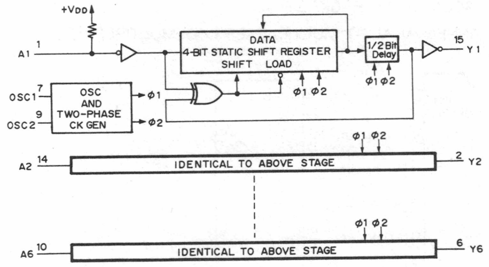
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

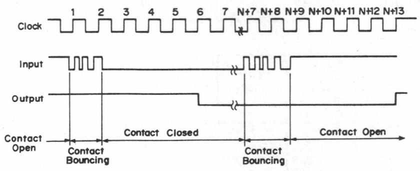
| CONT. INPUTS | | ON CHANNEL |
|---|---|---|
| EN | A (X,Y,Z,) | |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | X | OPEN |

## MC14490F (MOTOROLA) FLAT PACKAGE

C-MOS HEX CONTACT BOUNCE ELIMINATOR
– TOP VIEW –

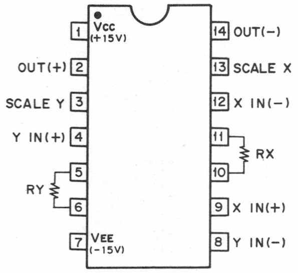

Y1 OUT
A2 IN
Y3 OUT
A1 IN
Y4 OUT
A5 IN
OSC 2
VDD (+3 to +18V)
GND
A1 IN
Y2 OUT
A3 IN
Y1 OUT
A4 IN
Y5 OUT
OSC1
A1 A2 A3 A4 A5 A6 OSC1 OSC2
Y1 Y2 Y3 Y4 Y5 Y6

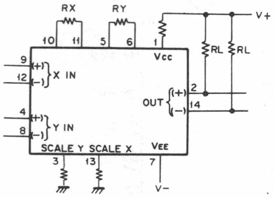

+VDD
A1
DATA
4-BIT STATIC SHIFT REGISTER
SHIFT LOAD
1/2 Bit Delay
Y1
OSC1
OSC2
OSC AND TWO-PHASE CK GEN
φ1
φ2
A2
IDENTICAL TO ABOVE STAGE
Y2
A6
IDENTICAL TO ABOVE STAGE
Y6



## MC1495M (MOTOROLA) FLAT PACKAGE

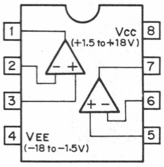
FOUR-QUADRANT MULTIPLIER
– TOP VIEW –


1 Vcc (+15V)
OUT(+) 2
SCALE Y 3
Y IN(+) 4
RY
7 VEE (−15V)
14 OUT(−)
13 SCALE X
12 X IN(−)
RX
9 X IN(+)
8 Y IN(−)


RX
RY
V+
RL
RL
Vcc
X IN
OUT
Y IN
SCALE Y
SCALE X
VEE
V−

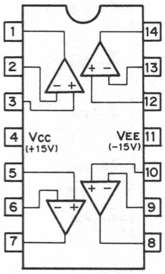
## MC34182M (MOTOROLA) FLAT PACKAGE
## TL062CPS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(JFET INPUT)
– TOP VIEW –


Vcc (+1.5 to +18V)
4 VEE (−18 to −1.5V)

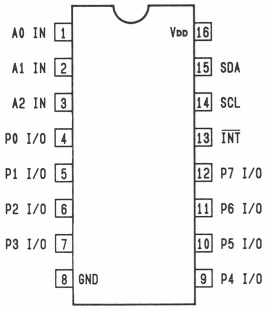
## MC34184M (MOTOROLA) FLAT PACKAGE

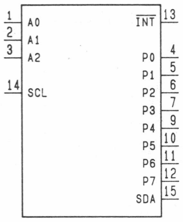
JFET INPUT OPERATIONAL AMPLIFIER
– TOP VIEW –


4 Vcc (+15V)
VEE 11 (−15V)

PCF8574T (PHILIPS)

C-MOS REMOTE 8-BIT I/O EXPANDER
– TOP VIEW –

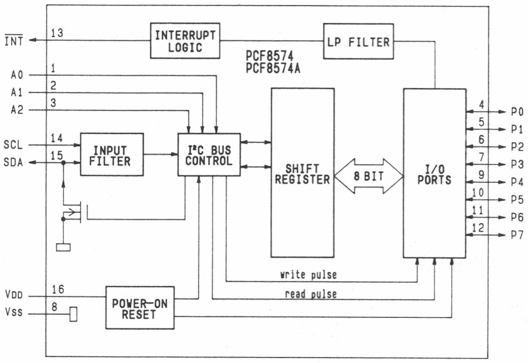

A0 IN 1
A1 IN 2
A2 IN 3
P0 I/O 4
P1 I/O 5
P2 I/O 6
P3 I/O 7
8 GND
16 VDD
15 SDA
14 SCL
13 INT
12 P7 I/O
11 P6 I/O
10 P5 I/O
9 P4 I/O


1 A0
2 A1
3 A2
14 SCL
INT 13
P0 4
P1 5
P2 6
P3 7
P4 9
P5 10
P6 11
P7 12
SDA 15

**INPUT**
A0–A2 ; ADDRESS INPUT
SCL ; SYSTEM CLOCK LINE

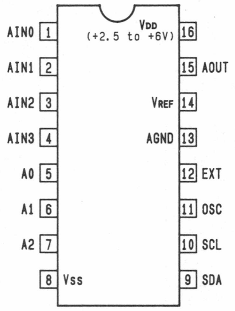
**OUTPUT**
INT ; INTERRUPT OUTPUT
SDA ; SERIAL DATA LINE

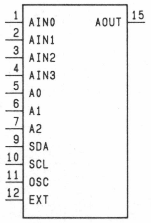
**INPUT/OUTPUT**
P0–P7 ; 8 BITS QUASI-BIDIRECTIONAL I/O PORT


INT 13
A0 1
A1 2
A2 3
SCL 14
SDA 15
VDD 16
VSS 8
INTERRUPT LOGIC
LP FILTER
PCF8574
PCF8574A
INPUT FILTER
I²C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
write pulse
read pulse
4 P0
5 P1
6 P2
7 P3
9 P4
10 P5
11 P6
12 P7

PCF8591T (PHILIPS)

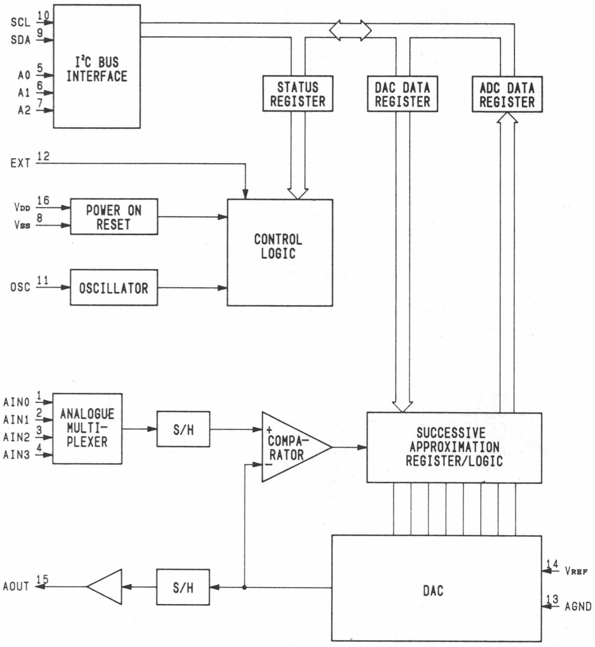
C-MOS 8-BIT A/D AND D/A CONVERTER
– TOP VIEW –


AIN0 1
AIN1 2
AIN2 3
AIN3 4
A0 5
A1 6
A2 7
8 Vss
VDD (+2.5 to +6V) 16
15 AOUT
VREF 14
AGND 13
12 EXT
11 OSC
10 SCL
9 SDA


1 AIN0
2 AIN1
3 AIN2
4 AIN3
5 A0
6 A1
7 A2
9 SDA
10 SCL
11 OSC
12 EXT
AOUT 15

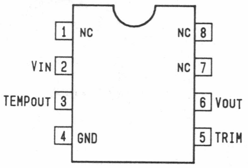
**INPUT**
A0–A2 ;HARDWARE ADDRESS
AIN0–AIN3 ;ANALOGUE INPUTS (A/D CONVERTER)
EXT ;EXTERNAL/INTERNAL SWITCH FOR OSCILLATOR INPUT
OSC ;OSCILLATOR INPUT/OUTPUT
SCL ;I²C BUS CLOCK INPUT/OUTPUT
SDA ;I²C BUS DATA INPUT/OUTPUT

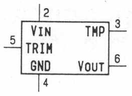
**OUTPUT**
AOUT ;ANALOGUE OUTPUT(D/A CONVERTER)


SCL 10
SDA 9
A0 5
A1 6
A2 7
I²C BUS INTERFACE
STATUS REGISTER
DAC DATA REGISTER
ADC DATA REGISTER
EXT 12
VDD 16
VSS 8
POWER ON RESET
CONTROL LOGIC
OSC 11
OSCILLATOR
AIN0 1
AIN1 2
AIN2 3
AIN3 4
ANALOGUE MULTI-PLEXER
S/H
COMPA-RATOR
SUCCESSIVE APPROXIMATION REGISTER/LOGIC
AOUT 15
S/H
DAC
14 VREF
13 AGND

REF-03GS (PMI)

REFERENCE/TEMPERATURE TRANSDUCER
– TOP VIEW –


1 NC
VIN 2
TEMPOUT 3
4 GND
NC 8
NC 7
6 VOUT
5 TRIM

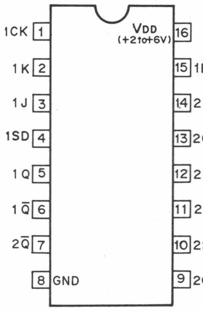

2
VIN
TMP 3
5 TRIM
GND
VOUT 6
4

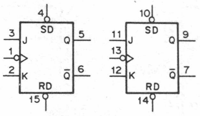
VIN ; INPUT VOLTAGE(+4.5Vto+33V)
TEMPOUT ; TEMPERATURE TRANSDUCER VOLTAGE OUTPUT
TRIMIN ; OUTPUT SIGNAL TRIMMING
VOUT ; OUTPUT VOLTAGE(+2.5V)

## SN74HC112ANS (TI) FLAT PACKAGE

C-MOS J-K FLIP-FLOP WITH DIRECT SET/RESET

– TOP VIEW –


1CK 1
1K 2
1J 3
1SD 4
1Q 5
1Q̄ 6
2Q̄ 7
8 GND
VDD (+2to+6V) 16
15 1RD
14 2RD
13 2CK
12 2K
11 2J
10 2SD
9 2Q


SD
J
K
RD
Q
Q̄
3
1
2
15
4
5
6
10
11
13
12
14
9
7

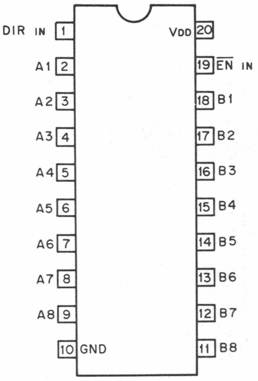
| INPUT | | | | | OUTPUT | |
|---|---|---|---|---|---|---|
| SD | RD | CK | J | K | Qn+1 | $\overline{\text{Qn+1}}$ |
| 0 | 1 | X | X | X | 1 | 0 |
| 1 | 0 | X | X | X | 0 | 1 |
| 0 | 0 | X | X | X | 1* | 1* |
| 1 | 1 | ⤵ | 0 | 0 | Qn | $\overline{\text{Qn}}$ |
| | | | 0 | 1 | 0 | 1 |
| | | | 1 | 0 | 1 | 0 |
| | | | 1 | 1 | $\overline{\text{Qn}}$ | Qn |
| 1 | 1 | 1 | X | X | Qn | $\overline{\text{Qn}}$ |

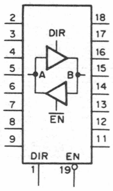
0; LOW LEVEL X; DON'T CARE
1; HIGH LEVEL *; NONSTABLE

## SN74HC245ANS (TI) FLAT PACKAGE

C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS

– TOP VIEW –


DIR IN 1
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
10 GND
VDD 20
19 EN IN
18 B1
17 B2
16 B3
15 B4
14 B5
13 B6
12 B7
11 B8

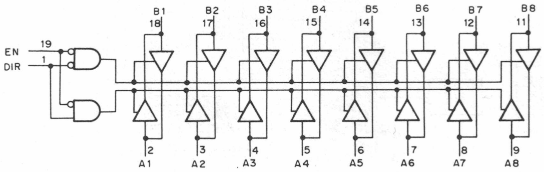

DIR
A
B
EN
DIR EN
1
19
2
3
4
5
6
7
8
9
18
17
16
15
14
13
12
11

| EN | DIR | OPERATION |
|---|---|---|
| 0 | 0 | B to A |
| 0 | 1 | A to B |
| 1 | X | HI – Z |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

NOTE :

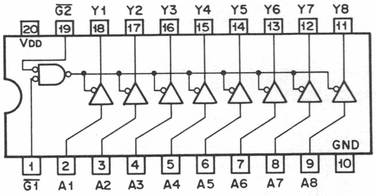
| TYPE | VDD |
|---|---|
| AC<br>HC | +2 to +6V |
| ACT<br>HCT | +5V |
| TC74AC245F<br>TC74AC245P | +2 to +5.5V |

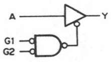

EN
DIR
19
1
B1 18
B2 17
B3 16
B4 15
B5 14
B6 13
B7 12
B8 11
2 A1
3 A2
4 A3
5 A4
6 A5
7 A6
8 A7
9 A8

## SN74HC541ANS (TI) FLAT PACKAGE

C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS

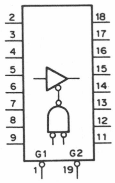
– TOP VIEW –


G̅2̅ Y1 Y2 Y3 Y4 Y5 Y6 Y7 Y8
20 19 18 17 16 15 14 13 12 11
VDD
GND
1 2 3 4 5 6 7 8 9 10
G̅1̅ A1 A2 A3 A4 A5 A6 A7 A8



| G1 | G2 | A | Y |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 |
| 1 | X | X | HI-Z |
| X | 1 | X | HI-Z |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


2
3
4
5
6
7
8
9
18
17
16
15
14
13
12
11
G1 G2
1
19

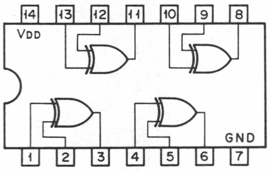
NOTE :

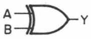
| TYPE | VDD |
|---|---|
| AC | +2 to +5.5V |
| HC | +2 to +6V |
| ACT/HCT | +5V |

## SN74HC86ANS (TI) FLAT PACKAGE

C-MOS QUAD EXCLUSIVE OR GATES

– TOP VIEW –


14 13 12 11 10 9 8
VDD
GND
1 2 3 4 5 6 7



$Y = \bar{A}\cdot B + A\cdot\bar{B}$

| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

0; LOW LEVEL
1; HIGH LEVEL

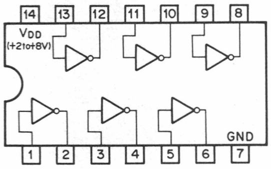
NOTE :

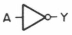
| TYPE | VDD |
|---|---|
| TC74AC86 TYPE | +2 to +5.5V |
| OTHER TYPES | +2 to +6V |

## TC40H000F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE

– TOP VIEW –


14 13 12 11 10 9 8
VDD (+2to+8V)
GND
1 2 3 4 5 6 7



$Y = \bar{A}$

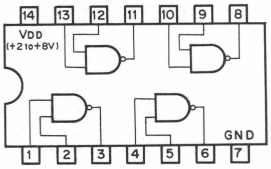
| A | Y |
|---|---|
| 0 | 1 |
| 1 | 0 |

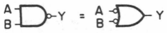
0; LOW LEVEL
1; HIGH LEVEL

## TC40H004F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER

– TOP VIEW –


14 13 12 11 10 9 8
VDD (+2to+8V)
GND
1 2 3 4 5 6 7



$Y = \overline{A\cdot B} = \bar{A} + \bar{B}$

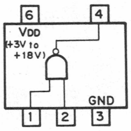
| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

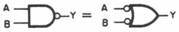
0; LOW LEVEL
1; HIGH LEVEL

## TC4S11F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE

– TOP VIEW –


6
4
VDD (+3V to +18V)
GND
1 2 3



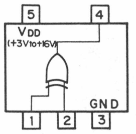
$Y = \overline{A\cdot B} = \bar{A} + \bar{B}$

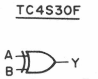
| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

0 ; LOW LEVEL
1 ; HIGH LEVEL

## TC4S30F (TOSHIBA) FLAT PACKAGE

C-MOS EXCLUSIVE OR GATE
– TOP VIEW –


5
4
VDD
(+3V to +16V)
GND
1
2
3


TC4S30F
A
B
Y

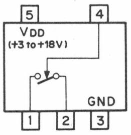
$Y=\bar{A}\cdot B+A\cdot\bar{B}$

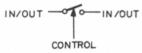
| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

0; LOW LEVEL
1; HIGH LEVEL

## TC4S66F (TOSHIBA)

C-MOS BILATERAL ANALOG SWITCH
– TOP VIEW –


5
4
VDD
(+3 to +18V)
GND
1
2
3

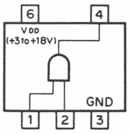

IN/OUT
IN/OUT
CONTROL

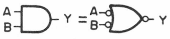
| CONTROL | SWITCH |
|---|---|
| 0 | OFF |
| 1 | ON |

0; LOW LEVEL
1; HIGH LEVEL

## TC4S81F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE
– TOP VIEW –


6
4
VDD
(+3 to +18V)
GND
1
2
3



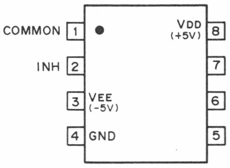
$Y=A\cdot B=\overline{\bar{A}+\bar{B}}$

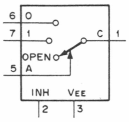
| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

0:LOW LEVEL
1:HIGH LEVEL

## TC4W53F (TOSHIBA) FLAT PACKAGE

C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


COMMON 1
INH 2
3 VEE (-5V)
4 GND
VDD (+5V) 8
7 CH1
6 CHO
5 A

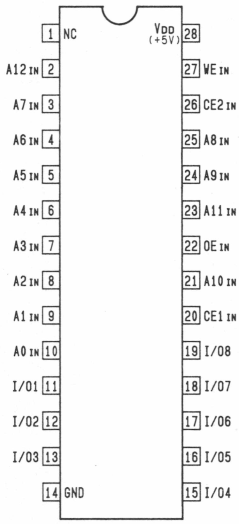

6
0
7
1
C
1
OPEN
5
A
INH
VEE
2
3

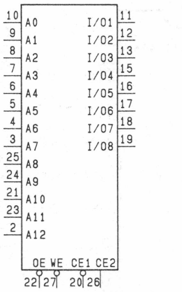
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

| CONT. INPUT | | ON CHANNEL |
|---|---|---|
| INH | A | |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | X | OPEN |

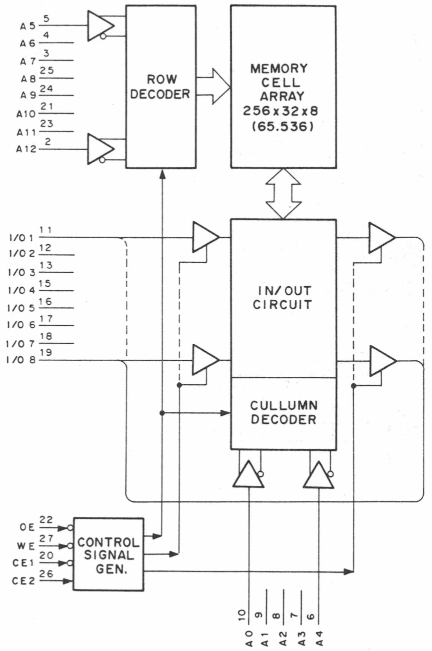
## TC55B88J-10 (TOSHIBA)

C-MOS 64k (8192x8)-BIT STATIC RAM
– TOP VIEW –


1 NC
A12 IN 2
A7 IN 3
A6 IN 4
A5 IN 5
A4 IN 6
A3 IN 7
A2 IN 8
A1 IN 9
A0 IN 10
I/01 11
I/02 12
I/03 13
14 GND
VDD (+5V) 28
27 WE IN
26 CE2 IN
25 A8 IN
24 A9 IN
23 A11 IN
22 OE IN
21 A10 IN
20 CE1 IN
19 I/08
18 I/07
17 I/06
16 I/05
15 I/04

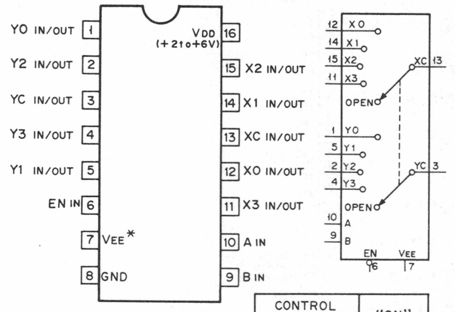

10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
I/01 11
I/02 12
I/03 13
I/04 15
I/05 16
I/06 17
I/07 18
I/08 19
OE WE CE1 CE2
22 27 20 26

A0–A12 :ADDRESS INPUTS
CE1, CE2 :CHIP ENABLE INPUTS
I/01–I/08 :DATA INPUTS/OUTPUTS
OE :OUTPUT ENABLE INPUT
WE :WRITE ENABLE INPUT


A5 5
A6 4
A7 3
A8 25
A9 24
A10 21
A11 23
A12 2
ROW DECODER
MEMORY CELL ARRAY 256x32x8 (65.536)
I/O 1 11
I/O 2 12
I/O 3 13
I/O 4 15
I/O 5 16
I/O 6 17
I/O 7 18
I/O 8 19
IN/OUT CIRCUIT
CULLUMN DECODER
OE 22
WE 27
CE1 20
CE2 26
CONTROL SIGNAL GEN.
10 A0
9 A1
8 A2
7 A3
6 A4

## TC74HC4052AF (TOSHIBA) FLAT PACKAGE

C-MOS DUAL 4-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


Y0 IN/OUT 1
Y2 IN/OUT 2
YC IN/OUT 3
Y3 IN/OUT 4
Y1 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+2 to +6V) 16
15 X2 IN/OUT
14 X1 IN/OUT
13 XC IN/OUT
12 X0 IN/OUT
11 X3 IN/OUT
10 A IN
9 B IN
12 X0
14 X1
15 X2
11 X3
XC 13
OPEN
1 Y0
5 Y1
2 Y2
4 Y3
YC 3
OPEN
10 A
9 B
EN 16
VEE 7

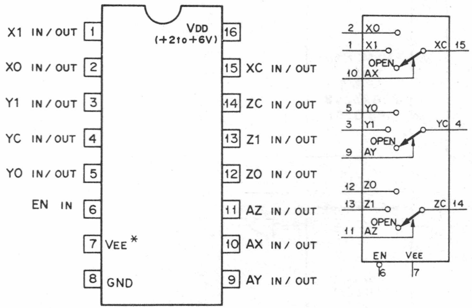
VEE*; VDD – VEE = +3 to +12 V

| CONTROL INPUTS | | | "ON" CHANNEL |
|---|---|---|---|
| EN | B | A | |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 2 |
| 0 | 1 | 1 | 3 |
| 1 | X | X | OPEN |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

## TC74HC4053AF (TOSHIBA) FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


X1 IN/OUT 1
X0 IN/OUT 2
Y1 IN/OUT 3
YC IN/OUT 4
Y0 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+2 to +6V) 16
15 XC IN/OUT
14 ZC IN/OUT
13 Z1 IN/OUT
12 Z0 IN/OUT
11 AZ IN/OUT
10 AX IN/OUT
9 AY IN/OUT
2 X0
1 X1
XC 15
OPEN
10 AX
5 Y0
3 Y1
YC 4
OPEN
9 AY
12 Z0
13 Z1
ZC 14
OPEN
11 AZ
EN 6
VEE 7

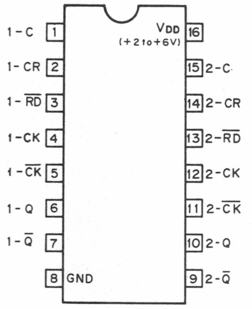
VEE*; VDD – VEE = +3 to +12V
VEE ≦ GND

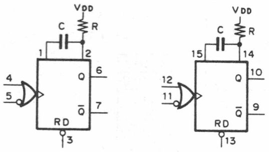
| CONT. INPUTS | | ON CHANNEL |
|---|---|---|
| EN | A (X,Y,Z,) | |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | X | OPEN |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

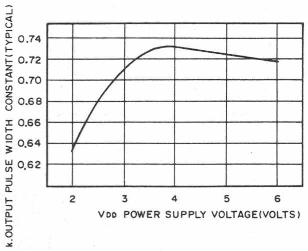
## TC74HC4538AF (TOSHIBA) FLAT PACKAGE

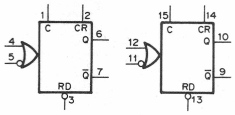
C-MOS DUAL RETRIGGERABLE / NON-RETRIGGERABLE MONOSTABLE MULTIVIBRATOR
– TOP VIEW –


1-C 1
1-CR 2
1-RD 3
1-CK 4
1-CK 5
1-Q 6
1-Q̄ 7
8 GND
VDD (+2 to +6V) 16
15 2-C
14 2-CR
13 2-RD
12 2-CK
11 2-CK
10 2-Q
9 2-Q̄


VDD
C
R
1
2
4
5
6
Q
7
Q̄
RD
3
VDD
C
R
15
14
12
11
10
Q
9
Q̄
RD
13

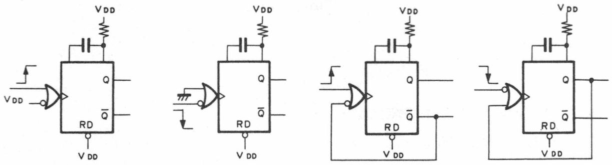
OUTPUT PULSE WIDTH = k·C·R




1
2
C
CR
4
5
Q
6
Q̄
7
RD
3
15
14
C
CR
12
11
Q
10
Q̄
9
RD
13

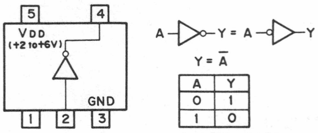
RETRIGGERABLE M.M.V

NON-RETRIGGERABLE M.M.V


VDD
VDD
Q
Q̄
RD
VDD
VDD
Q
Q̄
RD
VDD
VDD
Q
Q̄
RD
VDD
VDD
Q
Q̄
RD
VDD
VDD

## TC7S04F (TOSHIBA) FLAT PACKAGE
## TC7SU04F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER
– TOP VIEW –


5
4
VDD (+2 to +6V)
GND
1
2
3
A
Y = A
Y

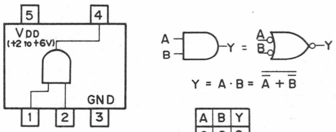
Y = $\overline{A}$

| A | Y |
|---|---|
| 0 | 1 |
| 1 | 0 |

0; LOW LEVEL
1; HIGH LEVEL

## TC7S08F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE
– TOP VIEW –


5
4
VDD (+2 to +6V)
GND
1
2
3
A
B
Y =
A
B
Y

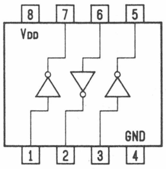
Y = A·B = $\overline{\overline{A}+\overline{B}}$

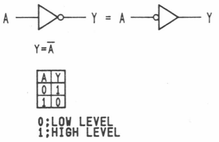
| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

0; LOW LEVEL
1; HIGH LEVEL

TC7W04F

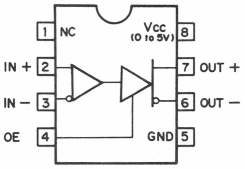
C-MOS HEX INVERTERS
– TOP VIEW –


8
7
6
5
VDD
GND
1
2
3
4


A
Y = A
Y
Y=Ā
A Y
0 1
1 0
0:LOW LEVEL
1:HIGH LEVEL

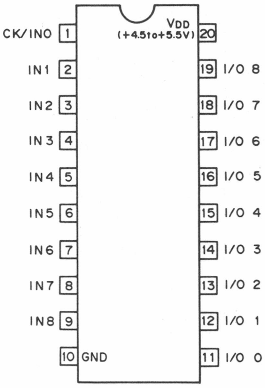
TL712CPS (TI) FLAT PACKAGE

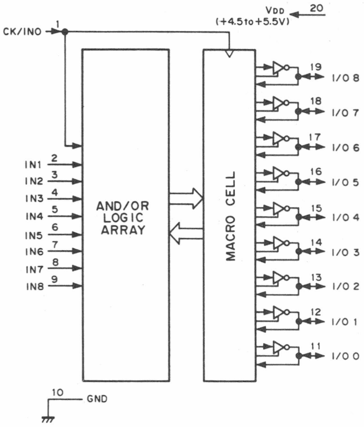
HIGH SPEED COMPARATOR (TTL OUTPUT)
– TOP VIEW –


1 NC
Vcc (0 to 5V) 8
IN + 2
7 OUT +
IN – 3
6 OUT –
OE 4
GND 5

TC9800FW (TOSHIBA)

C-MOS ELECTRICALLY ERASABLE PROGRAMMABLE LOGIC DEVICE
– TOP VIEW –

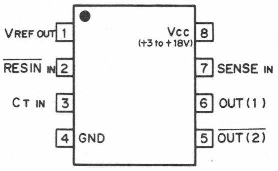

CK/INO 1
VDD (+4.5to+5.5V) 20
IN1 2
19 I/O 8
IN2 3
18 I/O 7
IN3 4
17 I/O 6
IN4 5
16 I/O 5
IN5 6
15 I/O 4
IN6 7
14 I/O 3
IN7 8
13 I/O 2
IN8 9
12 I/O 1
10 GND
11 I/O 0

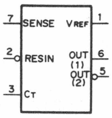

VDD (+4.5to+5.5V) 20
CK/INO 1
IN1 2
IN2 3
IN3 4
IN4 5
IN5 6
IN6 7
IN7 8
IN8 9
AND/OR LOGIC ARRAY
MACRO CELL
19 I/O 8
18 I/O 7
17 I/O 6
16 I/O 5
15 I/O 4
14 I/O 3
13 I/O 2
12 I/O 1
11 I/O 0
10 GND

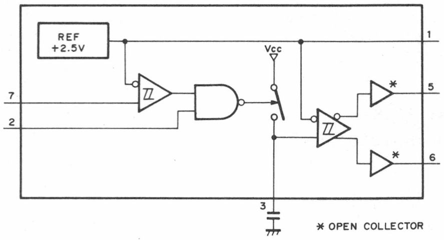
* ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.

TL7705CPS-B (TI) FLAT PACKAGE

POWER VOLTAGE SUPERVISOR
– TOP VIEW –

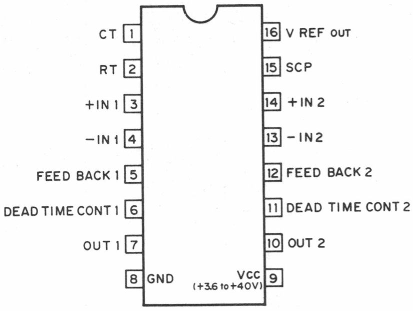

VREF OUT 1
Vcc (+3 to +18V) 8
RESIN IN 2
7 SENSE IN
CT IN 3
6 OUT (1)
4 GND
5 OUT (2)

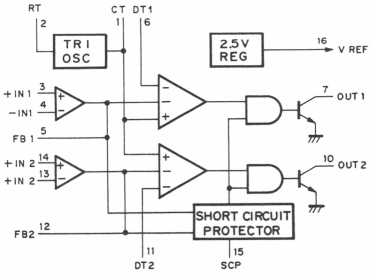

7 SENSE
VREF 1
2 RESIN
OUT (1) 6
OUT (2) 5
3 CT


REF +2.5V
1
Vcc
7
2
5
6
3
* OPEN COLLECTOR

TL1451CNS (TI) FLAT PACKAGE

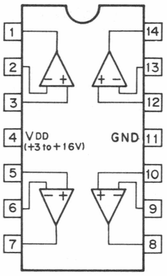
DUAL PWM POWER CONTROLLER
– TOP VIEW –


CT 1
16 V REF OUT
RT 2
15 SCP
+IN 1 3
14 +IN 2
–IN 1 4
13 –IN 2
FEED BACK 1 5
12 FEED BACK 2
DEAD TIME CONT 1 6
11 DEAD TIME CONT 2
OUT 1 7
10 OUT 2
8 GND
VCC (+3.6 to +40V) 9


RT 2
CT 1
DT1 6
TRI OSC
2.5V REG
16 V REF
+IN 1 3
–IN1 4
FB 1 5
+IN 2 14
+IN 2 13
FB2 12
7 OUT 1
10 OUT 2
SHORT CIRCUIT PROTECTOR
11 DT2
15 SCP

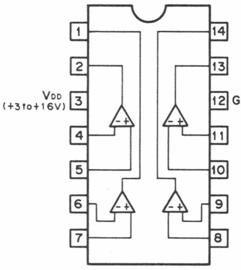
TLC27M4CNS (TI) FLAT PACKAGE

C-MOS OPERATIONAL AMPLIFIER
– TOP VIEW –


1
2
3
4 VDD (+3 to +16V)
5
6
7
14
13
12
GND 11
10
9
8

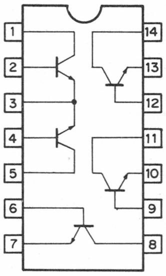
TLC339CNS (TI)

QUAD COMPARATOR
– TOP VIEW –


1
2
VDD (+3 to +16V) 3
4
5
6
7
14
13
12 GND
11
10
9
8

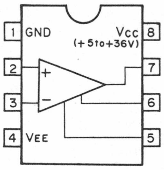
UPA103G (NEC)

DIFFERENTIAL AMPLIFIERS/PULSE PATTERN GENERATORS
– TOP VIEW –


1
2
3
4
5
6
7
8
9
10
11
12
13
14

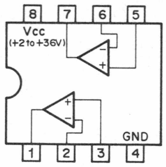
UPC311G2 (NEC) FLAT PACKAGE

VOLTAGE COMPARATOR
– TOP VIEW –


1 GND
2
3
4 VEE
Vcc 8
(+5to+36V)
7
6
5
+
–

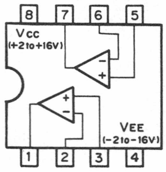
UPC393G2 (NEC) FLAT PACKAGE

DUAL VOLTAGE COMPARATORS
– TOP VIEW –


8
7
6
5
Vcc
(+2to+36V)
GND
1
2
3
4

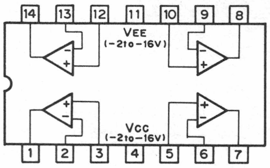
UPC4062G2 (NEC) FLAT PACKAGE

TTL-DUAL OPERATIONAL AMPLIFIER WITH LOW POWER CONSUMPTION
– TOP VIEW –


8
7
6
5
Vcc
(+2to+16V)
VEE
(–2to–16V)
1
2
3
4

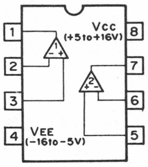
UPC4064G (NEC) FLAT PACKAGE

TTL-QUAD OPERATIONAL AMPLIFIER WITH LOW POWER CONSUMPTION
– TOP VIEW –


14
13
12
11
10
9
8
VEE
(–2to–16V)
Vcc
(–2to–16V)
1
2
3
4
5
6
7

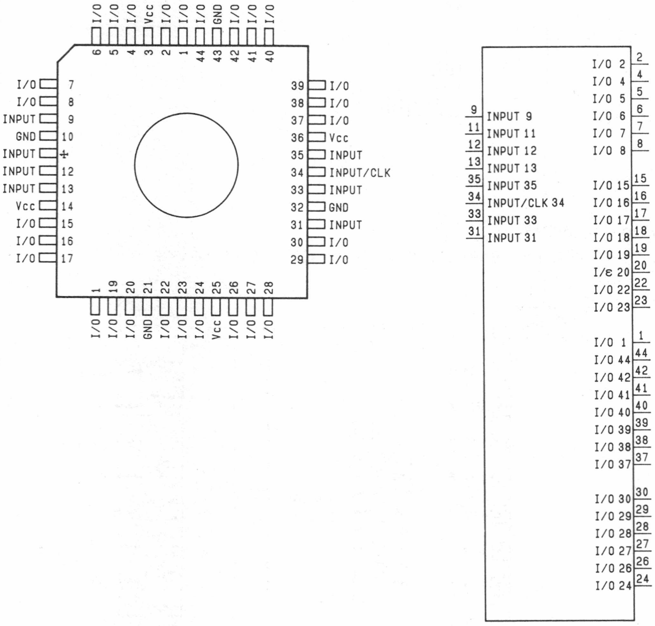
•UPC814G2-1 (NEC) FLAT PACKAGE

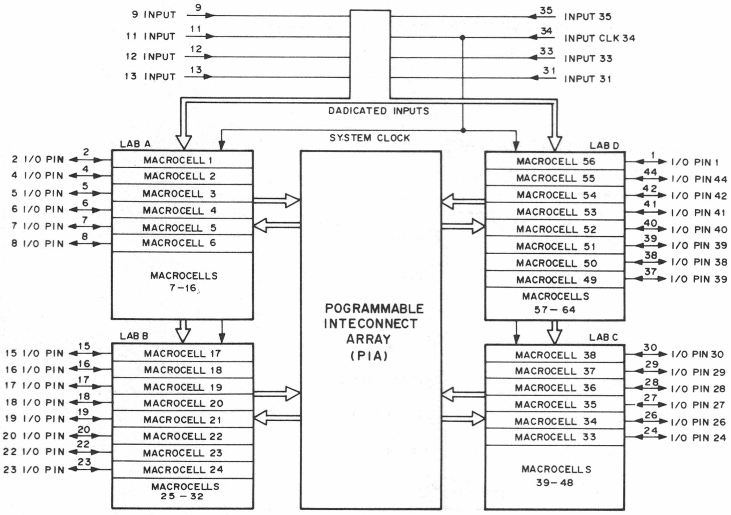
TTL-DUAL OPERATIONAL AMPLIFIER
– TOP VIEW –


1
2
3
4 VEE
(–16to–5V)
Vcc
(+5to+16V) 8
7
6
5

EPM5064JC-1 (ALTERA)

C-MOS UV ERASABLE PROGRAMMABLE LOGIC DEVICE
– TOP VIEW –

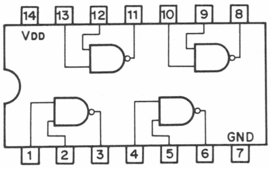

I/O 6
I/O 5
I/O 4
Vcc 3
I/O 2
I/O 1
I/O 44
GND 43
I/O 42
I/O 41
I/O 40
I/O 7
I/O 8
INPUT 9
GND 10
INPUT 11
INPUT 12
INPUT 13
Vcc 14
I/O 15
I/O 16
I/O 17
39 I/O
38 I/O
37 I/O
36 Vcc
35 INPUT
34 INPUT/CLK
33 INPUT
32 GND
31 INPUT
30 I/O
29 I/O
18 I/O
19 I/O
20 I/O
21 GND
22 I/O
23 I/O
24 I/O
25 Vcc
26 I/O
27 I/O
28 I/O
9 INPUT 9
11 INPUT 11
12 INPUT 12
13 INPUT 13
35 INPUT 35
34 INPUT/CLK 34
33 INPUT 33
31 INPUT 31
I/O 2 2
I/O 4 4
I/O 5 5
I/O 6 6
I/O 7 7
I/O 8 8
I/O 15 15
I/O 16 16
I/O 17 17
I/O 18 18
I/O 19 19
I/e 20 20
I/O 22 22
I/O 23 23
I/O 1 1
I/O 44 44
I/O 42 42
I/O 41 41
I/O 40 40
I/O 39 39
I/O 38 38
I/O 37 37
I/O 30 30
I/O 29 29
I/O 28 28
I/O 27 27
I/O 26 26
I/O 24 24

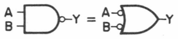

9 INPUT 9
11 INPUT 11
12 INPUT 12
13 INPUT 13
35 INPUT 35
34 INPUT CLK 34
33 INPUT 33
31 INPUT 31
DADICATED INPUTS
SYSTEM CLOCK
LAB A
2 I/O PIN 2
4 I/O PIN 4
5 I/O PIN 5
6 I/O PIN 6
7 I/O PIN 7
8 I/O PIN 8
MACROCELL 1
MACROCELL 2
MACROCELL 3
MACROCELL 4
MACROCELL 5
MACROCELL 6
MACROCELLS 7–16
LAB B
15 I/O PIN 15
16 I/O PIN 16
17 I/O PIN 17
18 I/O PIN 18
19 I/O PIN 19
20 I/O PIN 20
22 I/O PIN 22
23 I/O PIN 23
MACROCELL 17
MACROCELL 18
MACROCELL 19
MACROCELL 20
MACROCELL 21
MACROCELL 22
MACROCELL 23
MACROCELL 24
MACROCELLS 25 – 32
POGRAMMABLE INTECONNECT ARRAY (PIA)
LAB D
MACROCELL 56
MACROCELL 55
MACROCELL 54
MACROCELL 53
MACROCELL 52
MACROCELL 51
MACROCELL 50
MACROCELL 49
MACROCELLS 57– 64
1 I/O PIN 1
44 I/O PIN44
42 I/O PIN 42
41 I/O PIN 41
40 I/O PIN 40
39 I/O PIN 39
38 I/O PIN 38
37 I/O PIN 39
LAB C
MACROCELL 38
MACROCELL 37
MACROCELL 36
MACROCELL 35
MACROCELL 34
MACROCELL 33
MACROCELLS 39– 48
30 I/O PIN 30
29 I/O PIN 29
28 I/O PIN 28
27 I/O PIN 27
26 I/O PIN 26
24 I/O PIN 24

SN74HC00ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT NAND GATES

– TOP VIEW –


14
13
12
11
10
9
8
VDD
GND
1
2
3
4
5
6
7



$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

0; LOW LEVEL
1; HIGH LEVEL

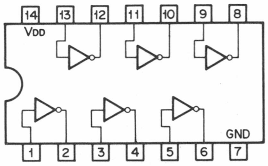
NOTE :

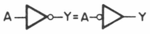
| TYPE | VDD |
|---|---|
| TC74AC00 TYPE | +2 to +5.5V |
| MC74HCT00N | +5V |
| 74ACT00 TYPE | +4.5 to +5.5V |
| OTHER TYPES | +2 to +6V |

SN74HC04ANS (TI) FLAT PACKAGE

C-MOS HEX INVERTERS

– TOP VIEW –


14
13
12
11
10
9
8
VDD
GND
1
2
3
4
5
6
7



$Y = \overline{A}$

| A | Y |
|---|---|
| 0 | 1 |
| 1 | 0 |

0: LOW LEVEL
1: HIGH LEVEL

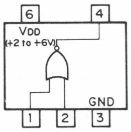
NOTE :

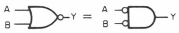
| TYPE | VDD |
|---|---|
| 74HCT04 TYPE | +5V |
| TC74AC04 TYPE | +2 to +5.5V |
| 74ACT04 TYPE | +4.5 to +5.5V |
| OTHER TYPES | +2 to +6V |

TC7S02F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NOR GATE

– TOP VIEW –


6
4
VDD
(+2 to +6V)
GND
1
2
3



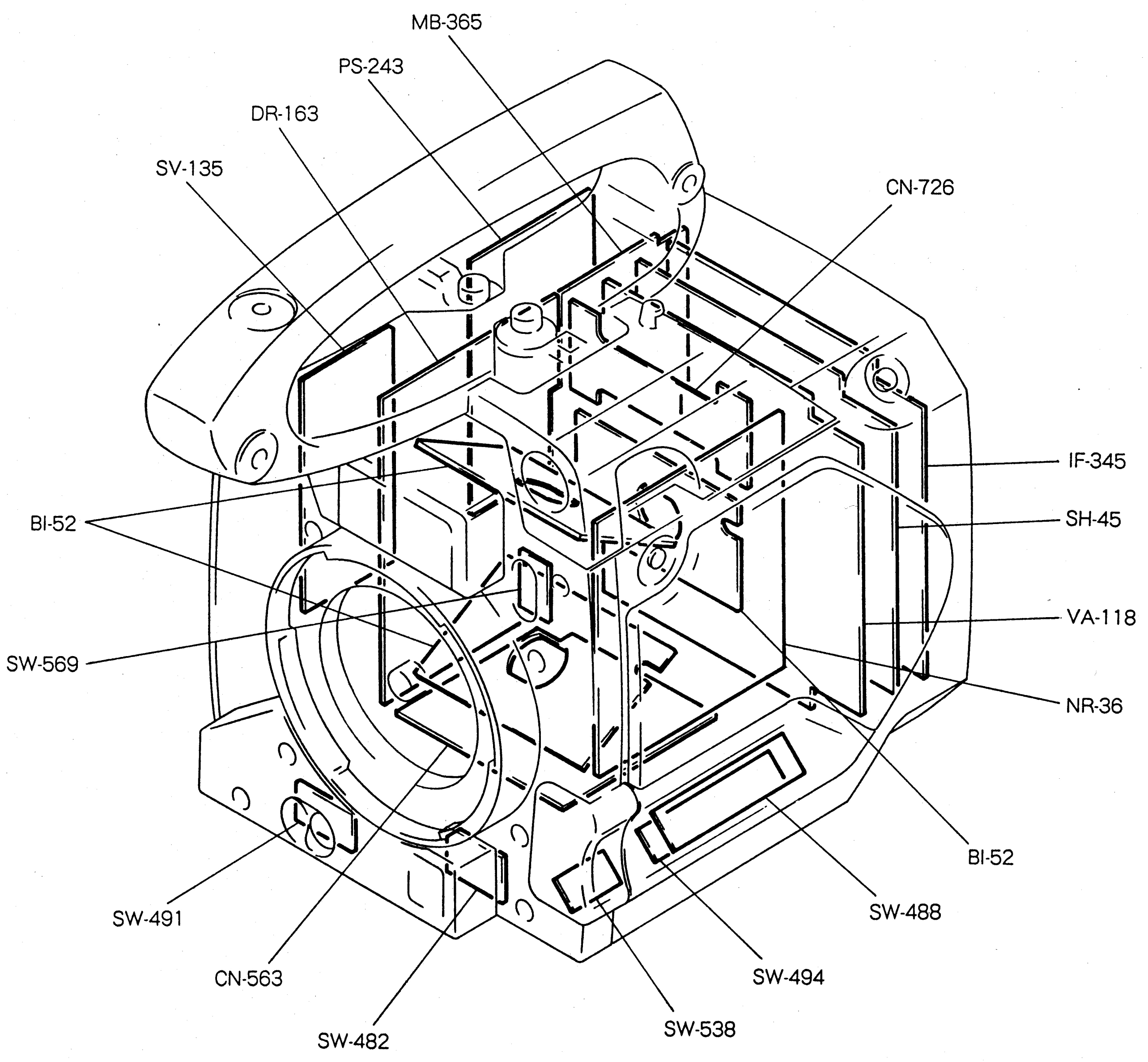
$Y = \overline{A + B} = \overline{A} \cdot \overline{B}$

| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |

0 ; LOW LEVEL
1 ; HIGH LEVEL

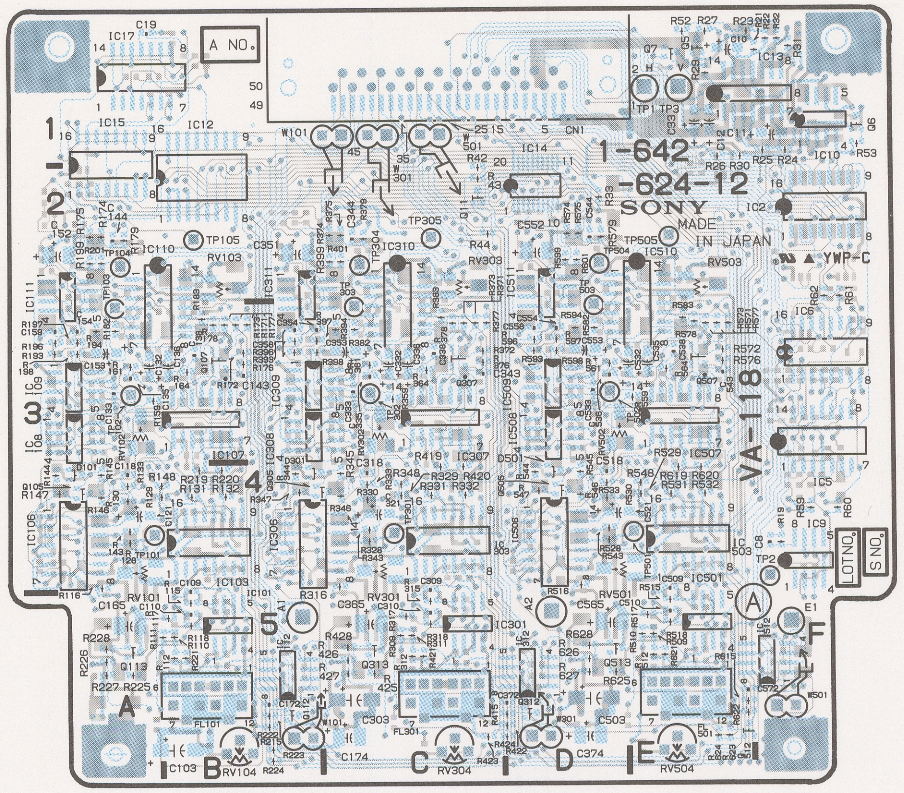
# SECTION C
# SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS

## BOARD LAYOUT

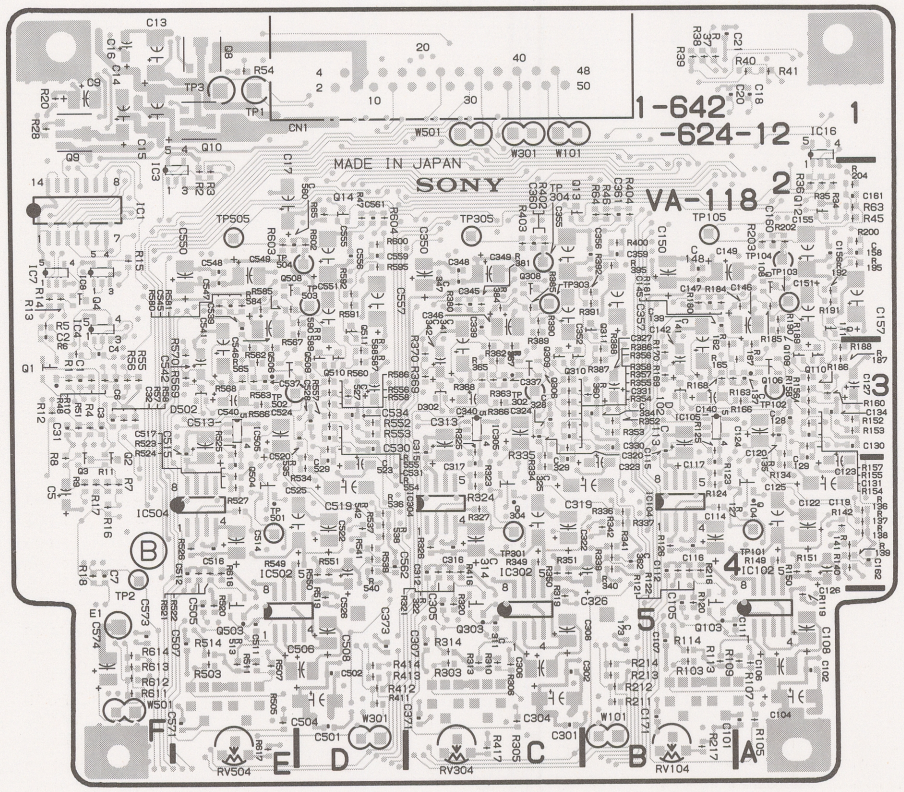

MB-365
PS-243
DR-163
SV-135
CN-726
IF-345
SH-45
BI-52
VA-118
SW-569
NR-36
BI-52
SW-488
SW-491
SW-494
CN-563
SW-538
SW-482

## **VA-118 BOARD**

Serial No. 10301 –



1-642-624-12 COMPONENT SIDE



1-642-624-12 SOLDERING SIDE

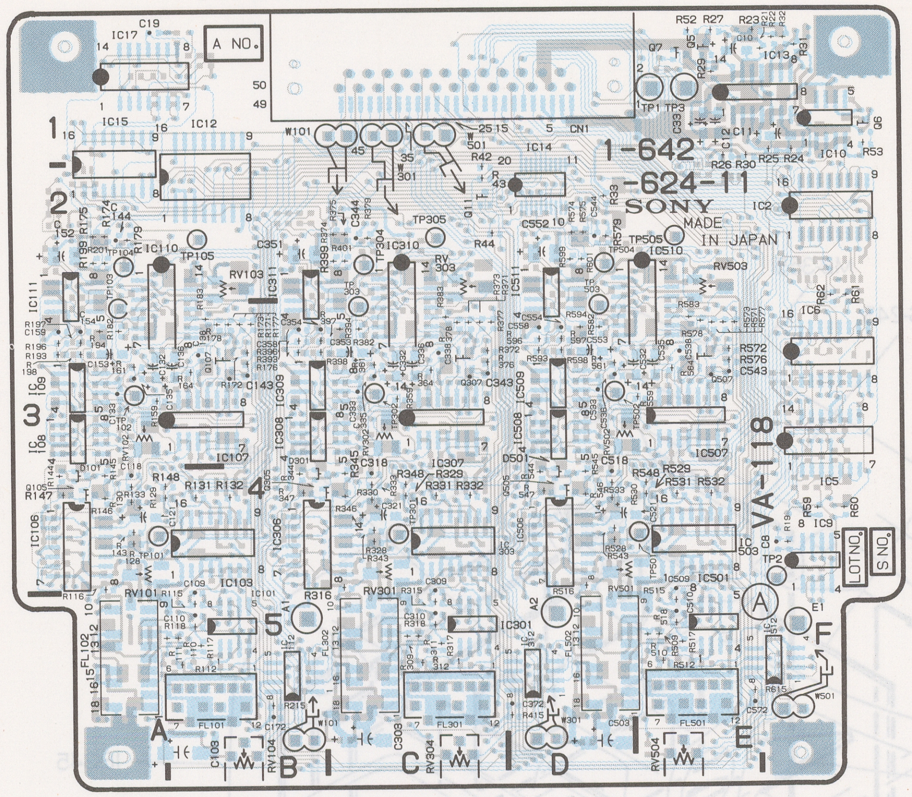
VA-118 1-642-624-12

∗ Soldering Side

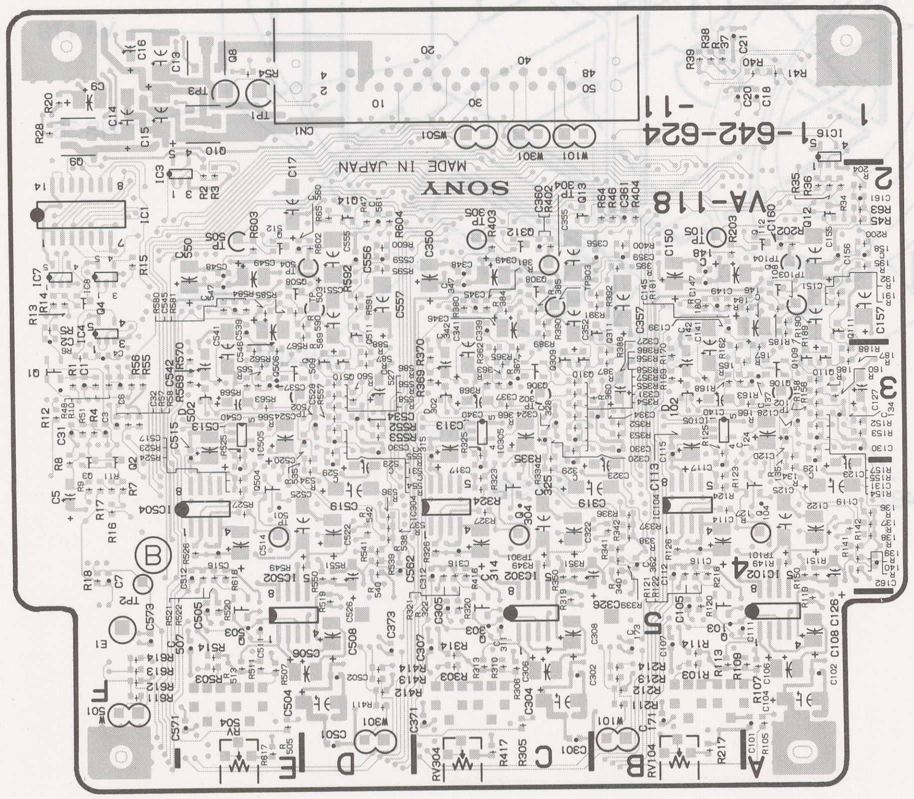
| | |
|---|---|
| CN1 | D-1 |
| D101 | A-4 |
| ∗D102 | B-3 |
| D301 | B-4 |
| ∗D302 | C-3 |
| D501 | D-4 |
| ∗D502 | E-3 |
| E1 | F-5 |
| FL101 | B-5 |
| FL301 | C-5 |
| FL501 | E-5 |
| ∗IC1 | F-2 |
| IC2 | F-2 |
| ∗IC3 | F-2 |
| ∗IC4 | F-2 |
| IC5 | F-4 |
| IC6 | F-3 |
| ∗IC7 | F-2 |
| ∗IC8 | F-2 |
| IC9 | F-4 |
| IC10 | F-1 |
| IC12 | B-1 |
| IC13 | F-1 |
| IC14 | D-1 |
| IC15 | A-1 |
| ∗IC16 | A-1 |
| IC17 | A-1 |
| IC101 | B-5 |
| ∗IC102 | A-4 |
| IC103 | B-4 |
| ∗IC104 | B-4 |
| ∗IC105 | B-3 |
| IC106 | A-4 |
| IC107 | B-3 |
| IC108 | A-3 |
| IC109 | A-3 |
| IC110 | A-2 |
| IC111 | A-2 |
| IC112 | B-5 |
| IC301 | C-5 |
| ∗IC302 | C-4 |
| IC303 | C-4 |
| ∗IC304 | C-4 |
| ∗IC305 | C-3 |
| IC306 | B-4 |
| IC307 | C-3 |
| IC308 | B-3 |
| IC309 | B-3 |
| IC310 | C-2 |
| IC311 | B-2 |
| IC312 | D-5 |
| IC501 | E-4 |
| ∗IC502 | E-4 |
| IC503 | E-4 |
| ∗IC504 | F-4 |
| ∗IC505 | E-3 |
| IC506 | D-4 |
| IC507 | E-3 |
| IC508 | D-3 |
| IC509 | D-3 |
| IC510 | E-2 |
| IC511 | D-2 |
| IC512 | F-5 |
| ∗Q1 | F-3 |
| ∗Q2 | F-3 |
| ∗Q3 | F-4 |
| ∗Q4 | F-2 |
| Q5 | E-1 |
| Q6 | F-1 |
| Q7 | E-1 |
| ∗Q8 | E-1 |
| ∗Q9 | F-1 |
| ∗Q10 | E-1 |
| Q11 | C-2 |
| ∗Q12 | A-2 |
| ∗Q13 | B-2 |
| ∗Q14 | D-2 |
| ∗Q103 | B-5 |
| ∗Q104 | A-4 |
| Q105 | A-4 |
| ∗Q106 | A-3 |
| Q107 | B-3 |
| ∗Q108 | A-2 |
| ∗Q109 | A-3 |
| ∗Q110 | A-3 |
| ∗Q111 | A-2 |
| ∗Q112 | B-5 |
| Q113 | A-5 |
| ∗Q303 | C-5 |
| ∗Q304 | C-4 |
| Q305 | B-4 |
| ∗Q306 | C-3 |
| Q307 | C-3 |
| ∗Q308 | C-2 |
| ∗Q309 | C-3 |
| ∗Q310 | C-3 |
| ∗Q311 | B-2 |
| ∗Q312 | D-5 |
| Q313 | C-5 |
| ∗Q503 | E-5 |
| ∗Q504 | E-4 |
| Q505 | D-4 |
| ∗Q506 | E-3 |
| Q507 | E-3 |
| ∗Q508 | E-2 |
| ∗Q509 | D-3 |
| ∗Q510 | D-3 |
| ∗Q511 | D-2 |
| ∗Q512 | E-5 |
| Q513 | D-5 |
| RV101 | A-5 |
| RV102 | A-3 |
| RV103 | B-2 |
| RV104 | B-5 |
| RV301 | C-5 |
| RV302 | C-3 |
| RV303 | C-2 |
| RV304 | C-5 |
| RV501 | D-5 |
| RV502 | D-3 |
| RV503 | E-2 |
| RV504 | E-5 |
| TP1 | E-1 |
| TP2 | F-4 |
| TP3 | E-1 |
| TP101 | A-4 |
| TP102 | A-3 |
| TP103 | A-2 |
| TP104 | A-2 |
| TP105 | B-2 |
| TP301 | C-4 |
| TP302 | C-3 |
| TP303 | C-2 |
| TP304 | C-2 |
| TP305 | C-2 |
| TP501 | E-4 |
| TP502 | D-3 |
| TP503 | D-2 |
| TP504 | D-2 |
| TP505 | E-2 |

---

Serial No. 10001 – 10300



1-642-624-11 COMPONENT SIDE



1-642-624-11 SOLDERING SIDE

VA-118 1-642-624-11

∗ Soldering Side

| | |
|---|---|
| CN1 | D-1 |
| D101 | A-4 |
| ∗D102 | B-3 |
| D301 | B-4 |
| ∗D302 | C-3 |
| D501 | D-4 |
| ∗D502 | E-3 |
| E1 | F-5 |
| FL101 | B-5 |
| FL301 | C-5 |
| FL501 | E-5 |
| ∗IC1 | F-2 |
| IC2 | F-2 |
| ∗IC3 | E-2 |
| ∗IC4 | F-2 |
| IC5 | F-4 |
| IC6 | F-3 |
| ∗IC7 | F-2 |
| ∗IC8 | F-2 |
| IC9 | F-4 |
| IC10 | F-1 |
| IC12 | A-2 |
| IC13 | E-1 |
| IC14 | D-2 |
| IC15 | A-2 |
| ∗IC16 | A-1 |
| IC17 | A-1 |
| IC101 | B-5 |
| ∗IC102 | A-5 |
| IC103 | B-4 |
| ∗IC104 | B-4 |
| ∗IC105 | B-3 |
| IC106 | A-4 |
| IC107 | B-3 |
| IC108 | A-3 |
| IC109 | A-3 |
| IC110 | A-2 |
| IC111 | A-2 |
| IC112 | B-5 |
| IC301 | C-5 |
| ∗IC302 | C-5 |
| IC303 | C-4 |
| ∗IC304 | C-4 |
| ∗IC305 | C-3 |
| IC306 | B-4 |
| IC307 | C-3 |
| IC308 | B-3 |
| IC309 | B-3 |
| IC310 | C-2 |
| IC311 | B-2 |
| IC312 | D-5 |
| IC501 | E-5 |
| ∗IC502 | E-5 |
| IC503 | E-4 |
| ∗IC504 | E-4 |
| ∗IC505 | E-3 |
| IC506 | D-4 |
| IC507 | E-3 |
| IC508 | D-3 |
| IC509 | D-3 |
| IC510 | E-2 |
| IC511 | D-2 |
| IC512 | F-5 |
| ∗Q1 | F-3 |
| ∗Q2 | F-3 |
| ∗Q3 | F-3 |
| ∗Q4 | F-2 |
| Q5 | E-1 |
| Q6 | F-1 |
| Q7 | E-1 |
| ∗Q8 | E-1 |
| ∗Q9 | F-1 |
| ∗Q10 | E-1 |
| Q11 | C-2 |
| ∗Q12 | A-2 |
| ∗Q13 | C-2 |
| ∗Q14 | D-2 |
| ∗Q103 | B-5 |
| ∗Q104 | A-4 |
| Q105 | A-4 |
| ∗Q106 | A-3 |
| Q107 | B-3 |
| ∗Q108 | A-2 |
| ∗Q109 | A-3 |
| ∗Q110 | A-3 |
| ∗Q111 | A-3 |
| ∗Q112 | A-2 |
| ∗Q303 | C-5 |
| ∗Q304 | C-4 |
| Q305 | B-4 |
| ∗Q306 | C-3 |
| Q307 | C-3 |
| ∗Q308 | C-2 |
| ∗Q309 | C-3 |
| ∗Q310 | C-3 |
| ∗Q311 | B-3 |
| ∗Q312 | C-2 |
| ∗Q503 | E-5 |
| ∗Q504 | E-4 |
| Q505 | D-4 |
| ∗Q506 | D-3 |
| ∗Q508 | D-2 |
| Q507 | E-3 |
| ∗Q509 | D-3 |
| ∗Q510 | D-3 |
| ∗Q511 | D-3 |
| ∗Q512 | E-2 |
| RV101 | A-4 |
| RV102 | A-3 |
| RV103 | B-2 |
| RV104 | B-5 |
| RV301 | C-4 |
| RV302 | C-3 |
| RV303 | C-2 |
| RV304 | C-5 |
| RV501 | D-4 |
| RV502 | E-3 |
| RV503 | E-2 |
| RV504 | E-5 |
| ∗R616 | E-4 |
| ∗R617 | E-5 |
| TP1 | E-1 |
| TP2 | F-4 |
| TP3 | E-1 |
| TP101 | A-4 |
| TP102 | A-3 |
| TP103 | A-2 |
| TP104 | A-2 |
| TP105 | B-2 |
| TP301 | C-4 |
| TP302 | C-3 |
| TP303 | C-2 |
| TP304 | C-2 |
| TP305 | C-2 |
| TP501 | E-4 |
| TP502 | D-3 |
| TP503 | D-2 |
| TP504 | D-2 |
| TP505 | E-2 |

**VA-118 BOARD**

* **NOTE**

| REF. NO. | CHANGE INFORMATION | SERIAL NO. |
|---|---|---|
| R162<br>R362<br>R562 | 62K ⟶ 12K | 10201 - |

**NOTE** Serial number 10001-10300

*1 *2 *3

**NOTE** Serial number 10001-10300

*4 *5 *6

**NOTE**

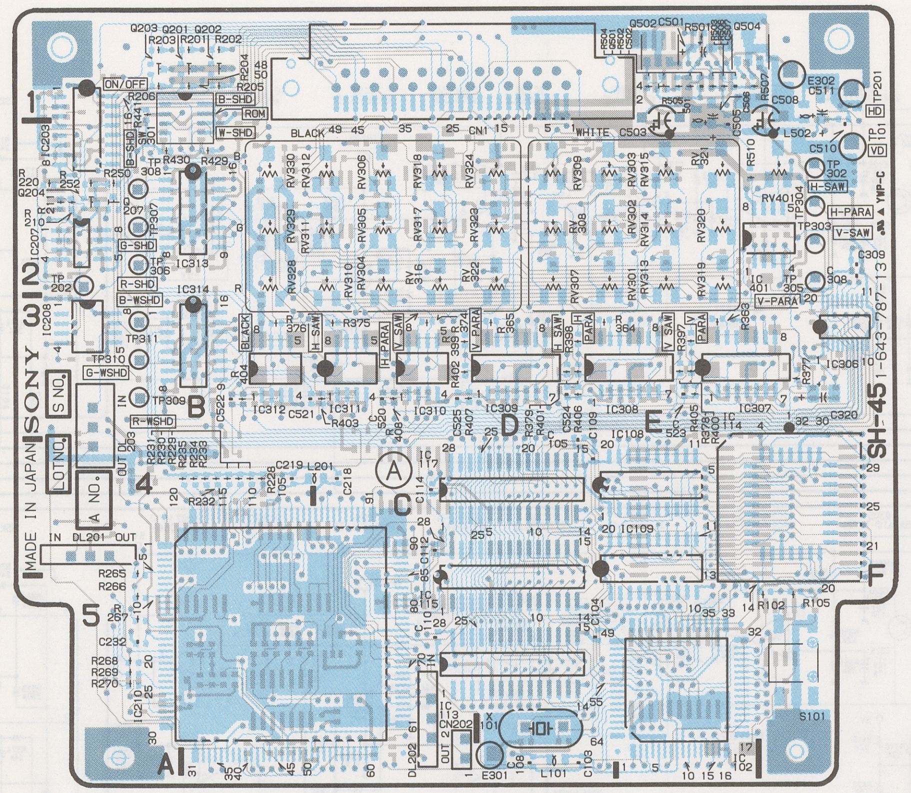
NM: NO MOUNT

## VA-118 BOARD

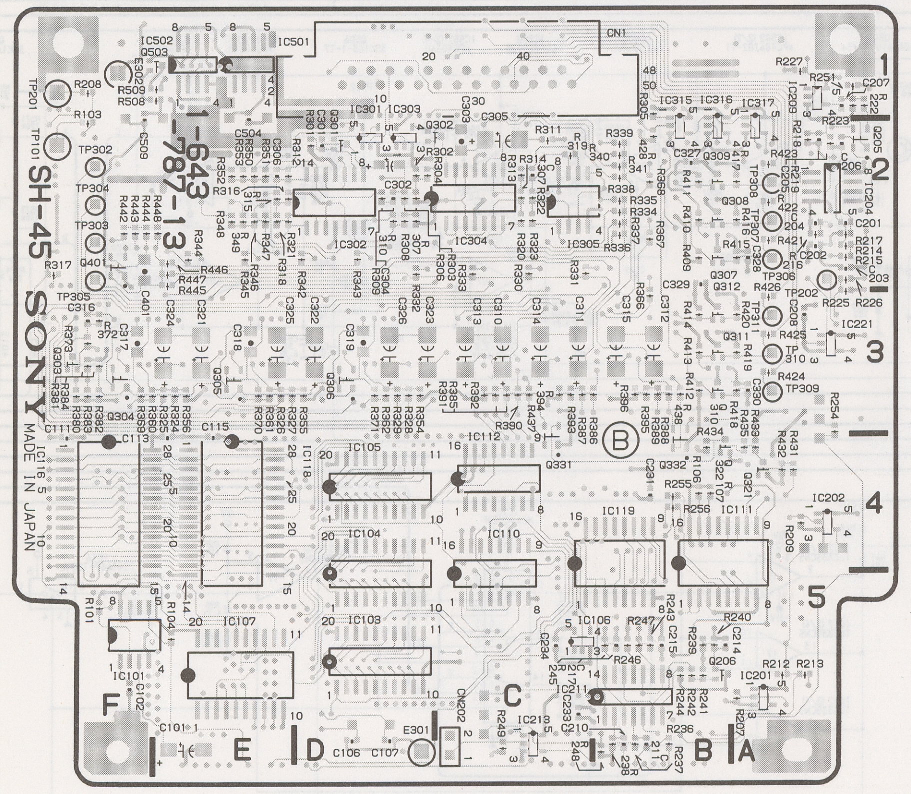
HDC-500 (W.W)

B-¥HDC500-VA118/M

**SH-45 BOARD** Serial No. 10301 –



1-643-787-13 COMPONENT SIDE



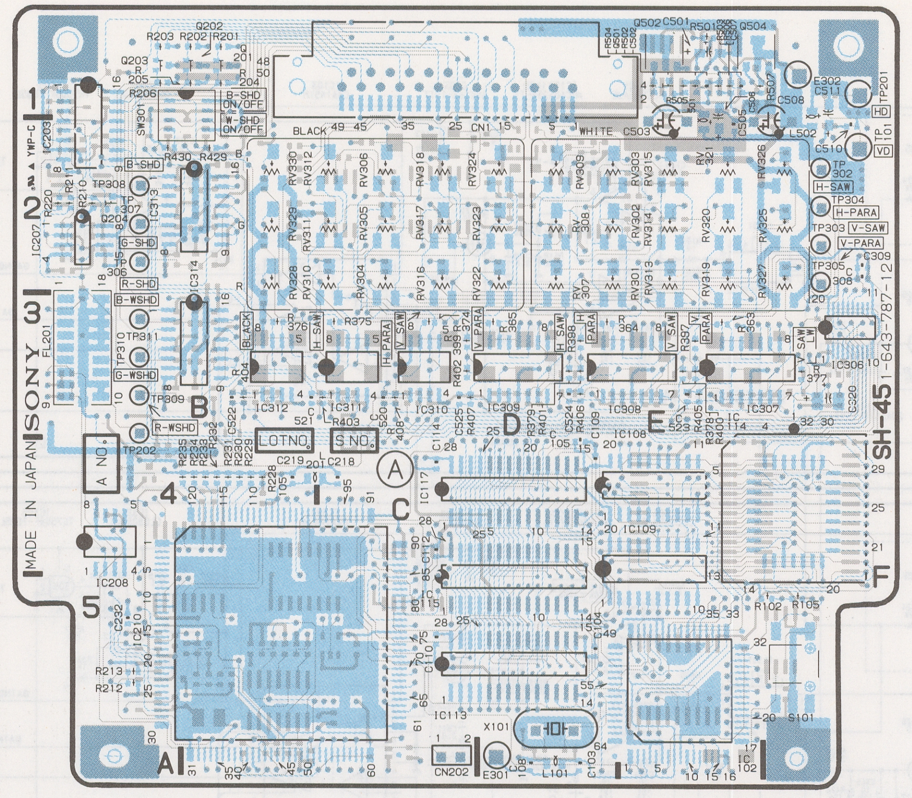
1-643-787-13 SOLDERING SIDE

SH-45 1-643-787-13

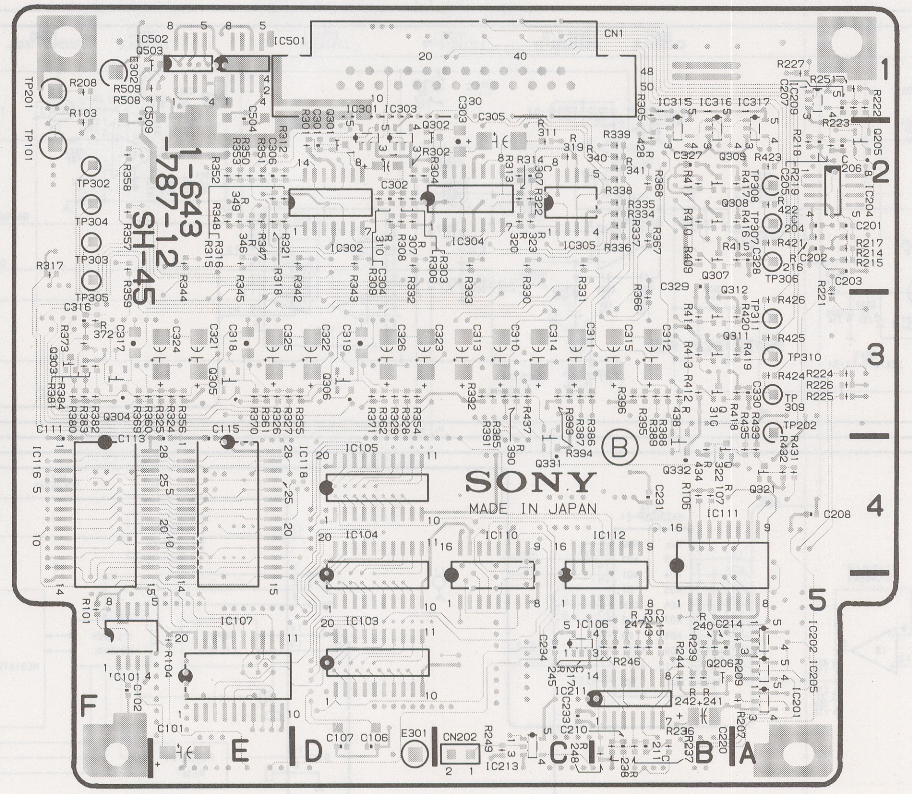
* Soldering Side

| | |
|---|---|
| CN1 | D-2 |
| CN202 | C-5 |
| DL201 | A-5 |
| DL202 | C-5 |
| DL203 | A-4 |
| E301 | D-5 |
| E302 | F-1 |
| *IC101 | F-5 |
| IC102 | E-5 |
| *IC103 | D-5 |
| *IC104 | D-4 |
| *IC105 | D-4 |
| *IC106 | C-5 |
| *IC107 | E-5 |
| IC108 | E-4 |
| IC109 | E-4 |
| *IC110 | C-4 |
| *IC111 | B-4 |
| *IC112 | C-4 |
| IC113 | C-5 |
| IC114 | E-3 |
| IC115 | C-5 |
| *IC116 | F-4 |
| IC117 | C-4 |
| *IC118 | D-4 |
| *IC119 | B-4 |
| *IC201 | A-5 |
| *IC202 | A-4 |
| IC203 | A-2 |
| *IC204 | A-2 |
| IC207 | A-2 |
| IC208 | A-3 |
| *IC209 | A-1 |
| IC210 | A-5 |
| *IC211 | C-5 |
| *IC213 | C-5 |
| *IC221 | A-3 |
| *IC301 | D-1 |
| *IC302 | D-2 |
| *IC303 | D-1 |
| *IC304 | C-2 |
| *IC305 | C-2 |
| IC306 | F-3 |
| IC307 | E-3 |
| IC308 | D-3 |
| IC309 | D-3 |
| IC310 | C-3 |
| IC311 | C-3 |
| IC312 | B-3 |
| IC313 | B-2 |
| IC314 | B-2 |
| *IC315 | B-1 |
| *IC316 | B-1 |
| *IC317 | A-1 |
| IC402 | E-2 |
| *IC501 | E-1 |
| *IC502 | E-1 |
| Q201 | B-1 |
| Q202 | B-1 |
| Q203 | A-1 |
| Q204 | A-2 |
| *Q205 | A-2 |
| *Q206 | B-5 |
| Q207 | A-2 |
| *Q301 | D-2 |
| *Q302 | C-2 |
| *Q303 | F-3 |
| *Q304 | F-3 |
| *Q305 | E-3 |
| *Q306 | D-3 |
| *Q307 | B-2 |
| *Q308 | B-2 |
| *Q309 | B-2 |
| *Q310 | B-3 |
| *Q311 | B-3 |
| *Q312 | B-3 |
| *Q321 | A-4 |
| *Q322 | B-4 |
| *Q331 | C-4 |
| *Q332 | B-4 |
| *Q401 | F-2 |
| Q501 | D-1 |
| Q502 | E-1 |
| *Q503 | E-1 |
| Q504 | E-1 |
| RV301 | E-2 |
| RV302 | E-2 |
| RV303 | E-2 |
| RV304 | C-2 |
| RV305 | C-2 |
| RV306 | C-2 |
| RV307 | D-2 |
| RV308 | D-2 |
| RV309 | D-2 |
| RV310 | C-2 |
| RV311 | B-2 |
| RV312 | B-2 |
| RV313 | E-2 |
| RV314 | E-2 |
| RV315 | E-2 |
| RV316 | C-2 |
| RV317 | C-2 |
| RV318 | C-2 |
| RV319 | E-2 |
| RV320 | E-2 |
| RV321 | E-2 |
| RV322 | D-2 |
| RV323 | D-2 |
| RV324 | C-2 |
| RV328 | B-2 |
| RV329 | B-2 |
| RV330 | B-2 |
| RV401 | F-2 |
| S101 | F-5 |
| SW301 | A-2 |
| TP101 | F-2 |
| TP201 | F-1 |
| TP202 | A-2 |
| TP302 | F-2 |
| TP303 | F-2 |
| TP304 | F-2 |
| TP305 | F-2 |
| TP306 | A-2 |
| TP307 | A-2 |
| TP308 | A-2 |
| TP309 | A-3 |
| TP310 | A-3 |
| TP311 | A-3 |
| X101 | D-5 |

Serial No. 10201 – 10300



1-643-787-12 COMPONENT SIDE



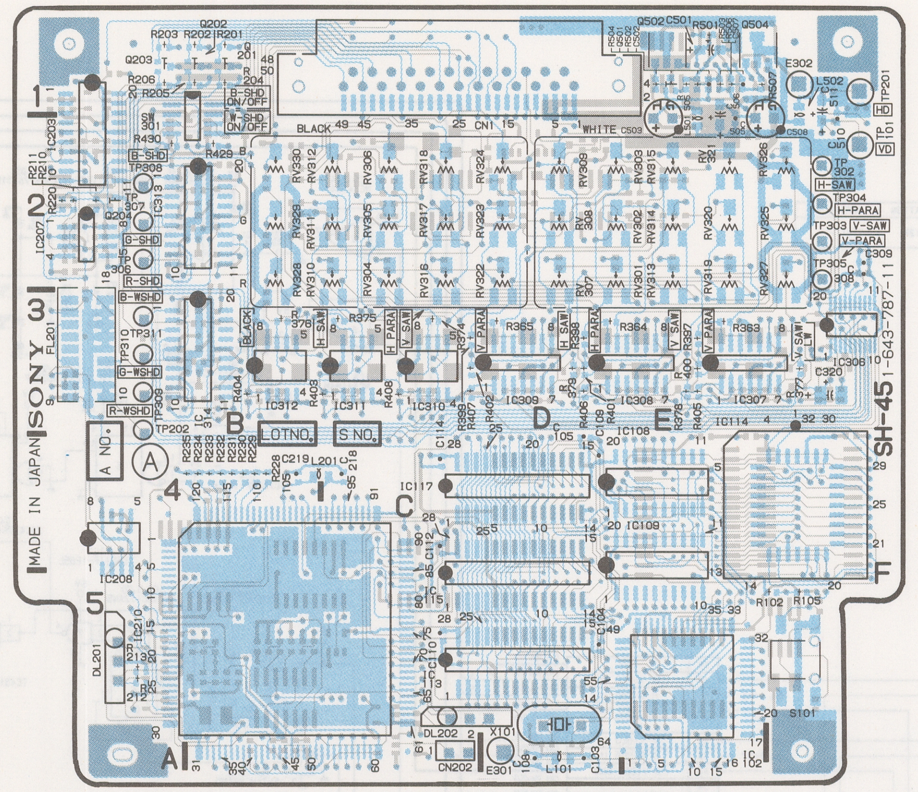
1-643-787-12 SOLDERING SIDE

SH-45 1-643-787-12

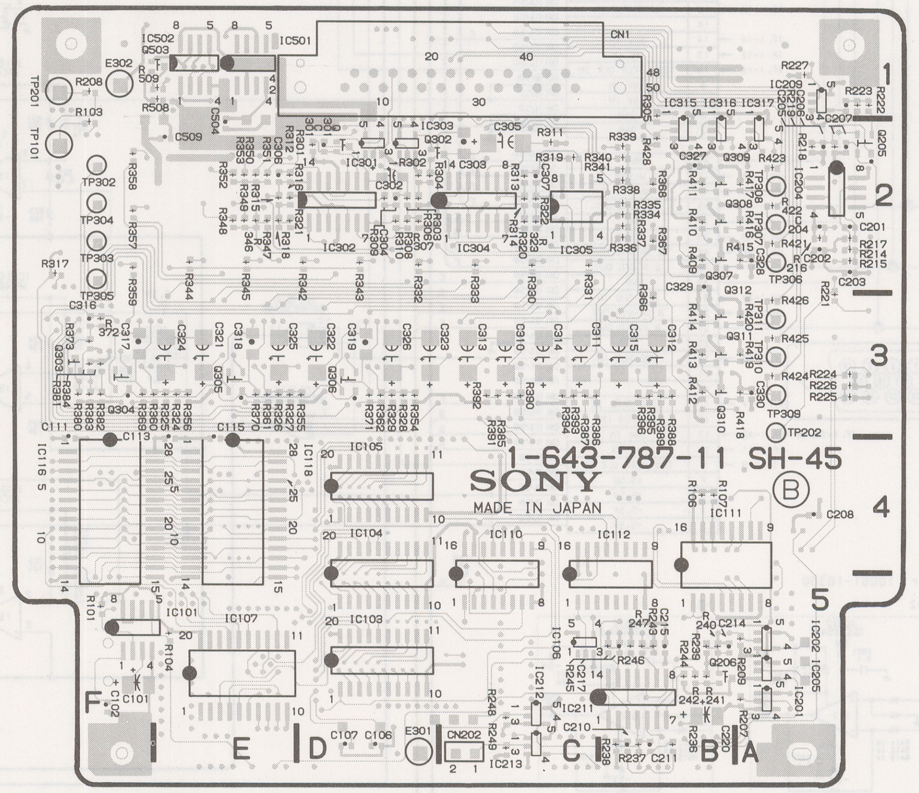
* Soldering Side

| | |
|---|---|
| CN1 | D-1 |
| CN202 | C-5 |
| E301 | D-5 |
| E302 | F-1 |
| FL201 | A-3 |
| *IC101 | F-5 |
| IC102 | E-5 |
| *IC103 | D-5 |
| *IC104 | D-4 |
| *IC105 | D-4 |
| *IC106 | C-5 |
| *IC107 | E-5 |
| IC108 | E-3 |
| IC109 | E-4 |
| *IC110 | C-4 |
| *IC111 | B-4 |
| *IC112 | B-4 |
| IC114 | E-3 |
| IC115 | C-5 |
| *IC116 | F-4 |
| IC117 | C-4 |
| *IC118 | E-4 |
| *IC201 | A-5 |
| *IC202 | A-5 |
| IC203 | A-2 |
| *IC204 | A-2 |
| *IC205 | A-5 |
| IC207 | A-2 |
| IC208 | A-4 |
| *IC209 | A-1 |
| IC210 | A-5 |
| *IC211 | C-5 |
| *IC213 | C-5 |
| *IC301 | D-1 |
| *IC302 | D-2 |
| *IC303 | D-1 |
| *IC304 | C-2 |
| *IC305 | C-2 |
| IC306 | F-3 |
| IC307 | E-3 |
| IC308 | E-3 |
| IC309 | D-3 |
| IC310 | C-3 |
| IC311 | C-3 |
| IC312 | B-3 |
| IC313 | A-2 |
| IC314 | B-3 |
| *IC315 | B-1 |
| *IC316 | B-1 |
| *IC317 | A-1 |
| *IC501 | E-1 |
| *IC502 | E-1 |
| Q201 | B-1 |
| Q202 | B-1 |
| Q203 | A-1 |
| Q204 | A-2 |
| *Q205 | A-2 |
| *Q206 | B-5 |
| *Q301 | D-2 |
| *Q302 | D-2 |
| *Q303 | F-3 |
| *Q304 | F-3 |
| *Q305 | E-3 |
| *Q306 | D-3 |
| *Q307 | B-2 |
| *Q308 | B-2 |
| *Q309 | B-2 |
| *Q310 | B-3 |
| *Q311 | B-3 |
| *Q312 | B-2 |
| *Q321 | A-4 |
| *Q322 | B-4 |
| *Q331 | C-4 |
| *Q332 | B-4 |
| Q501 | E-1 |
| Q502 | E-1 |
| *Q503 | E-1 |
| Q504 | E-1 |
| RV301 | E-2 |
| RV302 | E-2 |
| RV303 | E-2 |
| RV304 | C-2 |
| RV305 | C-2 |
| RV306 | C-2 |
| RV307 | D-2 |
| RV308 | D-2 |
| RV309 | D-2 |
| RV310 | B-2 |
| RV311 | B-2 |
| RV312 | B-2 |
| RV313 | E-2 |
| RV314 | E-2 |
| RV315 | E-2 |
| RV316 | C-2 |
| RV317 | C-2 |
| RV318 | C-2 |
| RV319 | E-2 |
| RV320 | E-2 |
| RV321 | E-2 |
| RV322 | D-2 |
| RV323 | D-2 |
| RV324 | D-2 |
| RV325 | E-2 |
| RV326 | E-2 |
| RV327 | E-2 |
| RV317 | C-2 |
| RV328 | B-2 |
| RV329 | B-2 |
| RV330 | B-2 |
| S101 | F-5 |
| SW301 | A-2 |
| TP101 | F-2 |
| TP201 | F-1 |
| TP202 | A-3 |
| TP302 | F-2 |
| TP303 | F-2 |
| TP304 | F-2 |
| TP305 | F-2 |
| TP306 | A-2 |
| TP307 | A-2 |
| TP308 | A-2 |
| TP309 | A-3 |
| TP310 | A-3 |
| TP311 | A-3 |
| X101 | D-5 |

Serial No. 10001 – 10200



1-643-787-11 COMPONENT SIDE



1-643-787-11 SOLDERING SIDE

SH-45 1-643-787-11

* Soldering Side

| | |
|---|---|
| CN1 | D-1 |
| CN202 | C-5 |
| DL201 | A-5 |
| DL202 | C-5 |
| E301 | D-5 |
| E302 | F-1 |
| FL201 | A-3 |
| *IC101 | E-5 |
| IC102 | E-5 |
| *IC103 | D-5 |
| *IC104 | D-4 |
| *IC105 | D-4 |
| *IC106 | C-5 |
| *IC107 | E-5 |
| IC108 | E-3 |
| IC109 | E-4 |
| *IC110 | C-4 |
| *IC111 | B-4 |
| *IC112 | B-4 |
| IC113 | C-5 |
| IC114 | E-3 |
| IC115 | C-5 |
| *IC116 | F-4 |
| IC117 | C-4 |
| *IC118 | D-4 |
| *IC201 | A-5 |
| *IC202 | A-5 |
| IC203 | A-2 |
| *IC204 | A-2 |
| *IC205 | A-5 |
| IC207 | A-2 |
| IC208 | A-4 |
| *IC209 | A-1 |
| IC210 | A-5 |
| *IC211 | C-5 |
| *IC212 | C-5 |
| *IC213 | C-5 |
| *IC301 | D-1 |
| *IC302 | D-2 |
| *IC303 | D-1 |
| *IC304 | C-2 |
| *IC305 | C-2 |
| IC306 | F-3 |
| IC307 | E-3 |
| IC308 | E-3 |
| IC309 | D-3 |
| IC310 | C-3 |
| IC311 | C-3 |
| IC312 | B-3 |
| IC313 | A-2 |
| IC314 | B-3 |
| *IC315 | B-1 |
| *IC316 | B-1 |
| *IC317 | A-1 |
| *IC501 | E-1 |
| *IC502 | E-1 |
| Q201 | B-1 |
| Q202 | B-1 |
| Q203 | A-1 |
| Q204 | A-2 |
| *Q205 | A-2 |
| *Q206 | B-5 |
| *Q301 | D-2 |
| *Q302 | D-2 |
| *Q303 | F-3 |
| *Q304 | F-3 |
| *Q305 | E-3 |
| *Q306 | D-3 |
| *Q307 | B-2 |
| *Q308 | B-2 |
| *Q309 | B-2 |
| *Q310 | B-3 |
| *Q311 | B-3 |
| *Q312 | B-3 |
| Q501 | E-1 |
| Q502 | E-1 |
| *Q503 | E-1 |
| Q504 | E-1 |
| RV301 | E-2 |
| RV302 | E-2 |
| RV303 | E-2 |
| RV304 | C-2 |
| RV305 | C-2 |
| RV306 | C-2 |
| RV307 | D-2 |
| RV308 | D-2 |
| RV309 | D-2 |
| RV310 | B-2 |
| RV311 | B-2 |
| RV312 | B-2 |
| RV313 | E-2 |
| RV314 | E-2 |
| RV315 | E-2 |
| RV316 | C-2 |
| RV317 | C-2 |
| RV318 | C-2 |
| RV319 | E-2 |
| RV320 | E-2 |
| RV321 | E-2 |
| RV322 | D-2 |
| RV323 | D-2 |
| RV324 | D-2 |
| RV325 | E-2 |
| RV326 | E-2 |
| RV327 | E-2 |
| RV328 | B-2 |
| RV329 | B-2 |
| RV330 | B-2 |
| S101 | F-5 |
| SW301 | A-2 |
| TP101 | F-2 |
| TP201 | F-1 |
| TP202 | A-3 |
| TP302 | F-2 |
| TP303 | F-2 |
| TP304 | F-2 |
| TP305 | F-2 |
| TP306 | A-2 |
| TP307 | A-2 |
| TP308 | A-2 |
| TP309 | A-3 |
| TP310 | A-3 |
| TP311 | A-3 |
| X101 | D-5 |

**SH-45 BOARD**

CN1 (1/50) 50P
-5.5V IN 1
-5.5V
CN1 (42/50) 50P
V-SHD OUT 42
NOT IN USE
C511 2.2 6.3V TA
C510 0.1
-5V-2

**NOTE**

*

| REF. NO. | CHANGE INFORMATION | SERIAL NO. |
|---|---|---|
| R386<br>R388<br>R390 | 22K → 15K | 10201- |
| R391<br>R393<br>R395 | 22K → 24K | |
| R392<br>R394<br>R396 | 1.5K → 24K | |
| R385<br>R387<br>R389 | 30K → 24K | |
| *1 | ADDED | 10201- |
| *2, *3, *4, *5 | ADDED | 10301- |
| R221 | DELETED | 10301- |
| R254 | 360 (ADDED) | 10201- |
| DL203 | ADDED | |

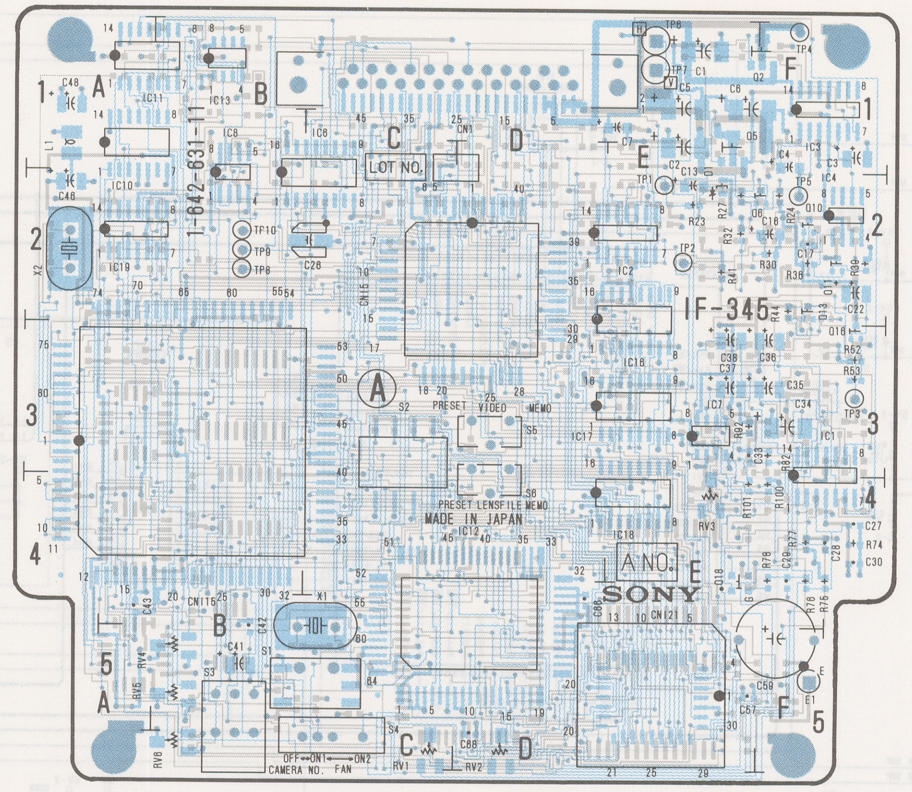
**NOTE** NM: NO MOUNT

**SH-45 BOARD**

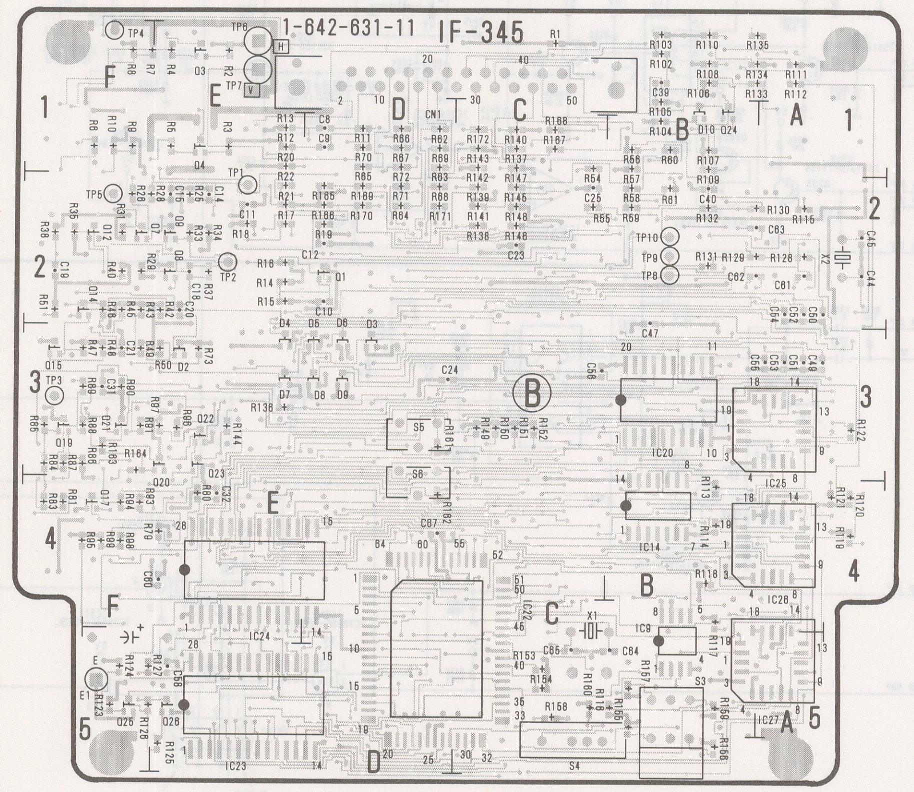
HDC-500 (W.W)

B-¥HDC500-SH45/M

## IF-345 BOARD


IF-345
1-642-631-11
LOT NO.
SONY
MADE IN JAPAN
A
B
C
D
E
F
1
2
3
4
5

1-642-631-11 COMPONENT SIDE


1-642-631-11 IF-345
A
B
C
D
E
F
1
2
3
4
5

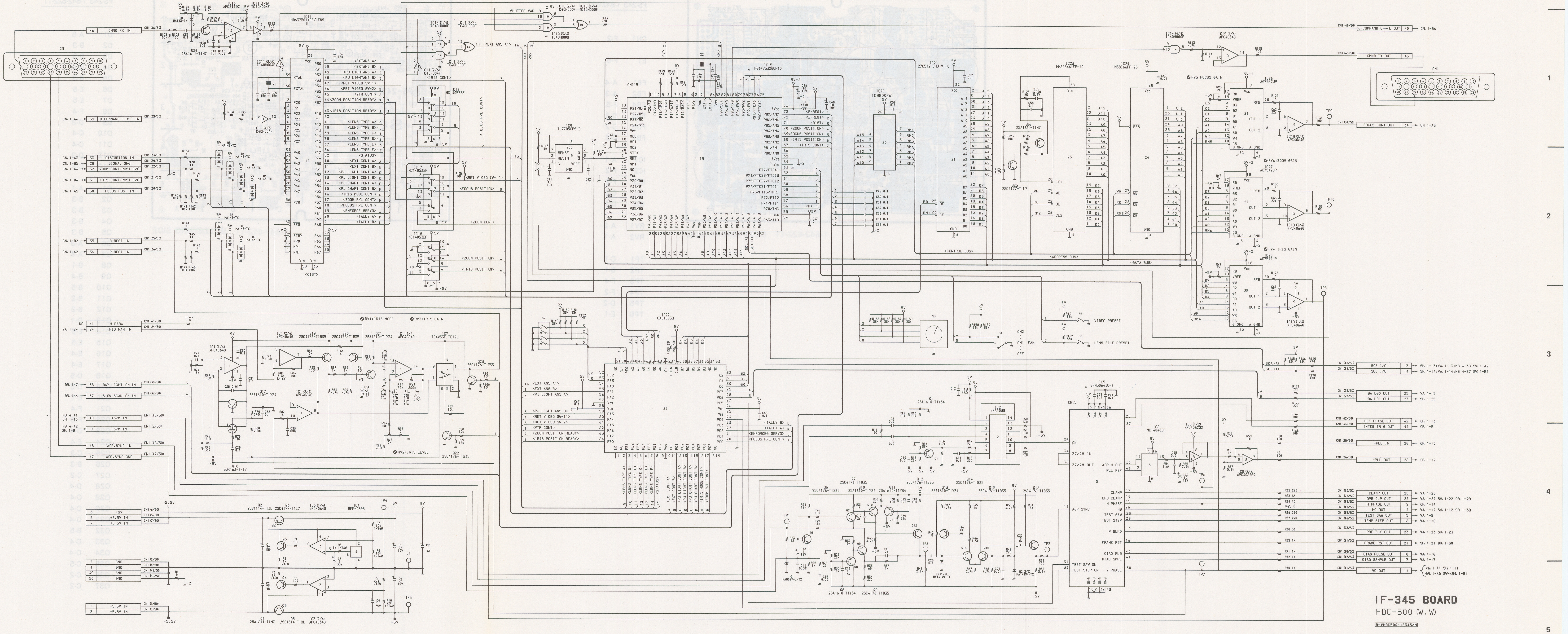
1-642-631-11 SOLDERING SIDE

IF-345 1-642-631-11

∗ Soldering Side

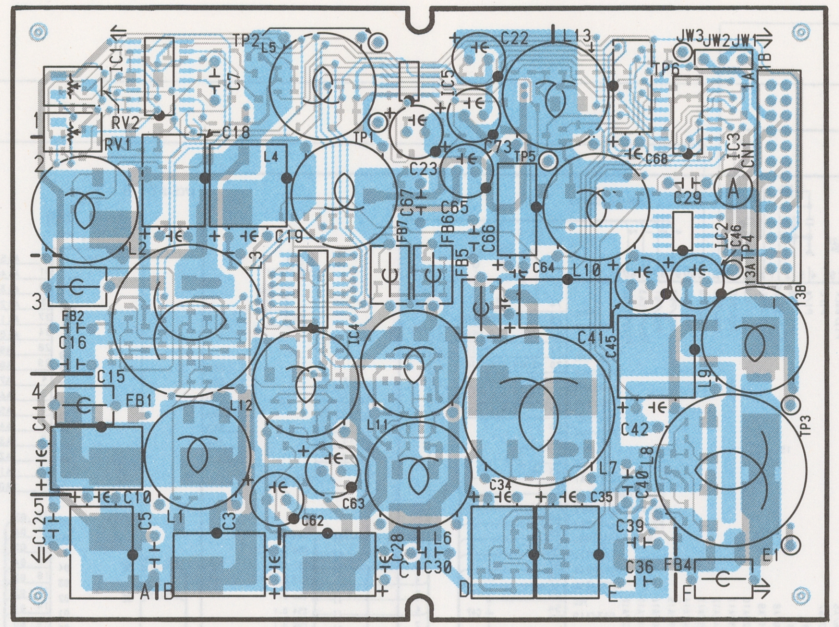
| | | | |
|---|---|---|---|
| CN1 | D-1 | ∗Q15 | F-3 |
| | | Q16 | F-3 |
| D1 | E-2 | ∗Q17 | F-4 |
| ∗D2 | E-3 | Q18 | E-4 |
| ∗D3 | D-3 | ∗Q19 | F-3 |
| ∗D4 | E-3 | ∗Q20 | E-4 |
| ∗D5 | D-3 | ∗Q21 | F-3 |
| ∗D6 | D-3 | ∗Q22 | E-3 |
| ∗D7 | E-3 | ∗Q23 | E-3 |
| ∗D8 | D-3 | ∗Q24 | B-1 |
| ∗D9 | D-3 | ∗Q25 | F-5 |
| ∗D10 | B-1 | ∗Q26 | E-5 |
| E1 | F-5 | RV1 | C-4 |
| | | RV2 | D-5 |
| IC1 | F-3 | RV3 | E-4 |
| IC2 | E-2 | RV4 | A-5 |
| IC3 | F-1 | RV5 | A-5 |
| IC4 | F-2 | RV6 | B-5 |
| IC5 | C-2 | | |
| IC6 | C-1 | S1 | B-5 |
| IC7 | E-3 | S2 | C-3 |
| IC8 | B-1 | S3 | B-5 |
| ∗IC9 | B-4 | S4 | C-5 |
| IC10 | A-2 | S5 | D-3 |
| IC11 | A-1 | S6 | D-4 |
| IC12 | D-4 | | |
| IC13 | B-1 | TP1 | E-2 |
| ∗IC14 | B-4 | TP2 | E-2 |
| IC15 | B-4 | TP3 | F-3 |
| IC16 | E-3 | TP4 | F-1 |
| IC17 | E-3 | TP5 | F-2 |
| IC18 | E-4 | TP6 | E-1 |
| IC19 | A-2 | TP7 | E-1 |
| ∗IC22 | C-4 | TP8 | B-2 |
| ∗IC23 | E-5 | TP9 | B-2 |
| ∗IC24 | E-5 | TP10 | B-2 |
| ∗IC25 | A-4 | | |
| ∗IC26 | A-4 | X1 | C-4 |
| ∗IC27 | A-5 | X2 | A-2 |
| ∗Q1 | D-2 | | |
| Q2 | E-1 | | |
| ∗Q3 | E-1 | | |
| ∗Q4 | E-1 | | |
| Q5 | E-1 | | |
| Q6 | E-2 | | |
| ∗Q7 | E-2 | | |
| ∗Q8 | E-2 | | |
| ∗Q9 | E-2 | | |
| Q10 | F-2 | | |
| Q11 | F-2 | | |
| ∗Q12 | F-2 | | |
| Q13 | F-2 | | |
| ∗Q14 | F-2 | | |

## IF-345 BOARD

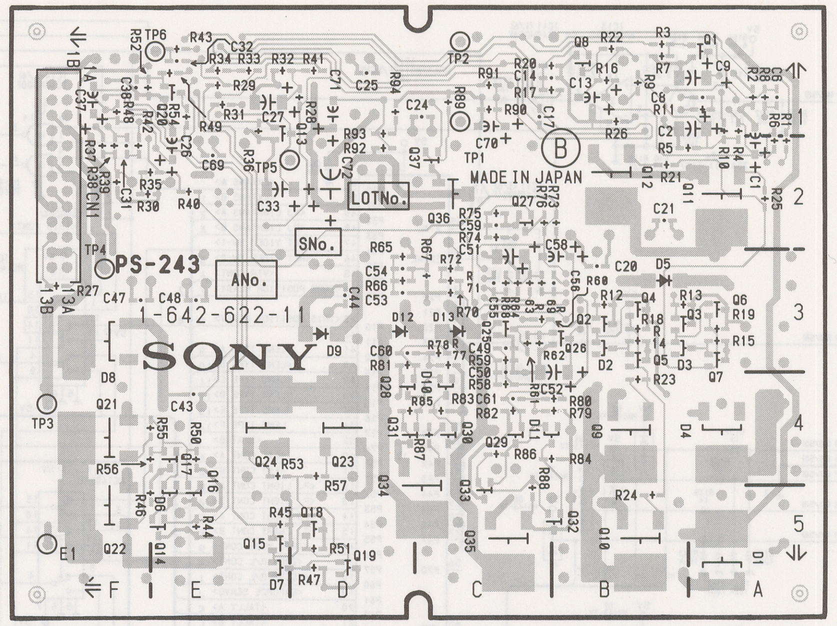

CN1
CMND RX IN 46 CN1 (46/50)
CN. 1-A6 39 D-COMMAND L→C IN CN1 (39/50)
CN. 1-A3 33 DISTORTION IN CN1 (33/50)
CN. 1-B5 29 SIGNAL GND CN1 (29/50)
CN. 1-A4 32 ZOOM CONT/POSI I/O CN1 (32/50)
CN. 1-B4 31 IRIS CONT/POSI I/O CN1 (31/50)
CN. 1-A5 30 FOCUS POSI IN CN1 (30/50)
CN. 1-B2 35 B-REGI IN CN1 (35/50)
CN. 1-A2 36 R-REGI IN CN1 (36/50)
H PARA
IRIS NAM IN
DAY LIGHT ON IN
SLOW SCAN ON IN
+37M IN
-37M IN
ADP.SYNC IN
ADP.SYNC GND
+9V
+5.5V IN
GND
-5.5V IN
SHUTTER VAR
D-COMMAND C→L OUT 40
CMND TX OUT 45
FOCUS CONT OUT 34
RV5:FOCUS GAIN
RV6:ZOOM GAIN
RV4:IRIS GAIN
RV1:IRIS MODE
RV3:IRIS GAIN
RV2:IRIS LEVEL
VIDEO PRESET
LENS FILE PRESET
FAN
CONTROL BUS
ADDRESS BUS
DATA BUS
CN1 (13/50) SDA I/O 13 SH. 1-13;VA. 1-13;MB. 4-38;SW. 1-A2
CN1 (14/50) SCL I/O 14 SH. 1-14;VA. 1-14;MB. 4-37;SW. 1-B2
CN1 (25/50) DA LD0 OUT 25 VA. 1-15
CN1 (27/50) DA LD1 OUT 27 SH. 1-25
CN1 (42/50) REF PHASE OUT 42 DR. 1-13
CN1 (44/50) INTEG TRIG OUT 44 DR. 1-5
CN1 (28/50) +PLL IN 28 DR. 1-10
CN1 (26/50) -PLL OUT 26 DR. 1-12
CN1 (20/50) CLAMP OUT 20 VA. 1-20
CN1 (22/50) OPB CLP OUT 22 VA. 1-22 SH. 1-22 DR. 1-29
CN1 (19/50) H PHASE OUT 19 DR. 1-14
CN1 (12/50) HD OUT 12 VA. 1-12 SH. 1-12 DR. 1-39
CN1 (15/50) TEST SAW OUT 15 VA. 1-9
CN1 (16/50) TEMP STEP OUT 16 VA. 1-10
CN1 (23/50) PRE BLK OUT 23 VA. 1-23 SH. 1-23
CN1 (21/50) FRAME RST OUT 21 SH. 1-21 DR. 1-30
CN1 (18/50) DIAG PULSE OUT 18 VA. 1-18
CN1 (17/50) DIAG SAMPLE OUT 17 VA. 1-17
CN1 (11/50) VD OUT 11 VA. 1-11 SH. 1-11 DR. 1-40 SW-494. 1-B1

**IF-345 BOARD**
HDC-500 (W.W)
B-¥HDC500-IF345/M

## PS-243 BOARD


RV2
RV1
TP2
C22
L13
JW3
JW2
JW1
C18
L4
C23
C65
C29
CN1
FB2
C16
C15
FB1
L12
C19
L11
C41
C42
C34
C35
C39
C36
FB4
C10
L1
C62
C63
C28
IC30
A
B
C
D
E
F
1
2
3
4
5
E1
TP3

1-642-622-11 COMPONENT SIDE

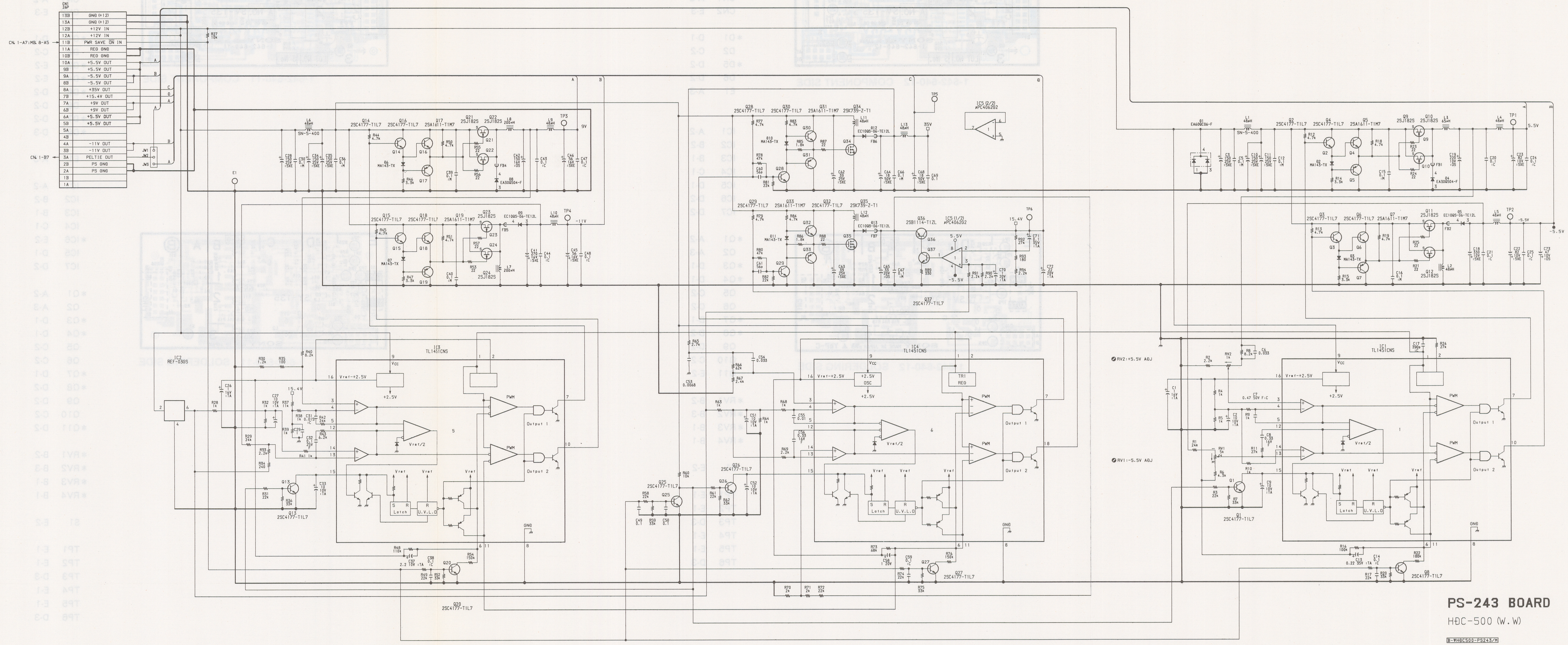

PS-243
1-642-622-11
SONY
MADE IN JAPAN
LOT No.
S No.
A No.
B
TP6
TP1
TP4
TP3
E1
A
B
C
D
E
F
1
2
3
4
5

1-642-622-11 SOLDERING SIDE

| PS-243 1-642-622-11 | |
|---|---|
| CN1 | F-2 |
| E1 | F-5 |
| FB1 | A-4 |
| FB2 | A-3 |
| FB4 | F-5 |
| FB5 | D-3 |
| FB6 | D-2 |
| FB7 | C-2 |
| IC1 | A-1 |
| IC2 | F-2 |
| IC3 | F-2 |
| IC4 | C-3 |
| IC5 | D-1 |
| RV1 | A-2 |
| RV2 | A-1 |
| TP1 | C-1 |
| TP2 | B-1 |
| TP3 | F-4 |
| TP4 | F-2 |
| TP5 | D-2 |
| TP6 | E-1 |

| PS-243 1-642-622-11 | |
|---|---|
| D1 | A-5 |
| D2 | B-3 |
| D3 | B-3 |
| D4 | B-4 |
| D5 | B-3 |
| D6 | E-5 |
| D7 | E-5 |
| D8 | F-4 |
| D9 | D-3 |
| D10 | C-4 |
| D11 | C-4 |
| D12 | D-3 |
| D13 | C-3 |
| Q1 | A-1 |
| Q2 | B-3 |
| Q3 | B-3 |
| Q4 | B-3 |
| Q5 | B-3 |
| Q6 | A-3 |
| Q7 | A-4 |
| Q8 | B-1 |
| Q9 | B-4 |
| Q10 | B-5 |
| Q11 | B-2 |
| Q12 | B-2 |
| Q13 | D-1 |
| Q14 | E-5 |
| Q15 | E-5 |
| Q16 | E-4 |
| Q17 | E-4 |
| Q18 | D-5 |
| Q19 | D-5 |
| Q20 | E-1 |
| Q21 | F-4 |
| Q22 | F-5 |
| Q23 | D-4 |
| Q24 | E-4 |
| Q25 | C-3 |
| Q26 | B-3 |
| Q27 | C-2 |
| Q28 | D-4 |
| Q29 | C-4 |
| Q30 | C-4 |
| Q31 | D-4 |
| Q32 | B-5 |
| Q33 | C-4 |
| Q34 | D-4 |
| Q35 | C-5 |
| Q36 | C-2 |
| Q37 | C-2 |

## PS-243 BOARD


CN1
26P
13B GND (+12)
13A GND (+12)
12B +12V IN
12A +12V IN
11B PWR SAVE ON IN
11A REG GND
10B REG GND
10A +5.5V OUT
9B +5.5V OUT
9A -5.5V OUT
8B -5.5V OUT
8A +35V OUT
7B +15.4V OUT
7A +9V OUT
6B +9V OUT
6A +5.5V OUT
5B +5.5V OUT
5A
4B
4A -11V OUT
3B -11V OUT
3A PELTIE OUT
2B PS GND
2A PS GND
1B
1A
CN. 1-A7;MB. 8-A5
CN. 1-B7
JW1
JW2
JW3
IC2
REF-03GS
IC3
TL1451CNS
Vref-+2.5V
Vcc
+2.5V
PWM
Output 1
Output 2
Vref/2
Vref
Latch
U.V.L.O
GND
15.4V
Q13
2SC4177-T1L7
Q20
2SC4177-T1L7
Q34
2SK739-Z-T1
Q35
2SK739-Z-T1
D12
EC10QS-06-TE12L
D13
EC10QS-06-TE12L
FB6
FB7
TP5
35V
IC5 (2/2)
μPC4062G2
Q36
2SB1114-T1ZL
IC5 (1/2)
μPC4062G2
Q37
2SC4177-T1L7
TP6
5.5V
-5.5V
IC4
TL1451CNS
IC1
TL1451CNS
RV2:+5.5V ADJ
RV1:-5.5V ADJ
Q8
2SC4177-T1L7
TP1
TP2
TP3
TP4
5.5V
-5.5V
5V
-11V

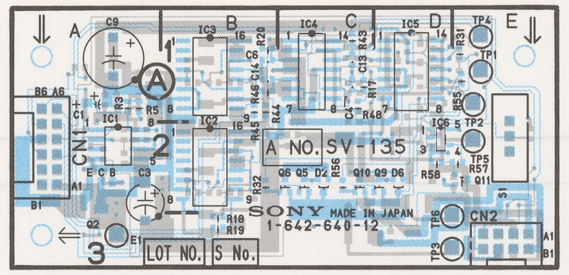
**PS-243 BOARD**

HDC-500 (W.W)

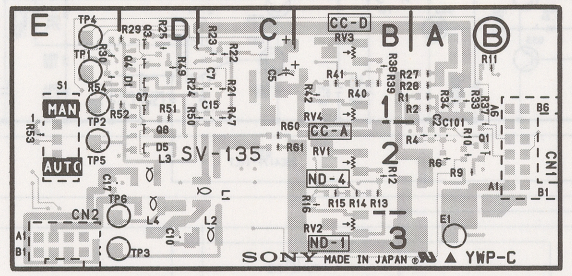
B-¥HDC500-PS243/M

## SV-135 BOARD

Serial No. 10301 –


A
B
C
D
E
Ⓐ
1
2
3
CN1
CN2
A NO. SV-135
SONY MADE IN JAPAN
1-642-640-12
LOT NO.
S No.
TP1
TP2
TP4

1-642-640-12 COMPONENT SIDE


E
D
C
B
A
Ⓑ
1
2
3
SV-135
MAN
AUTO
CC-D
CC-A
ND-4
ND-1
CN1
CN2
E1
SONY MADE IN JAPAN
YWP-C

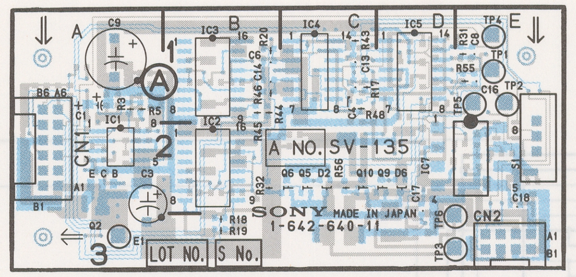
1-642-640-12 SOLDERING SIDE

SV-135 1-642-640-12

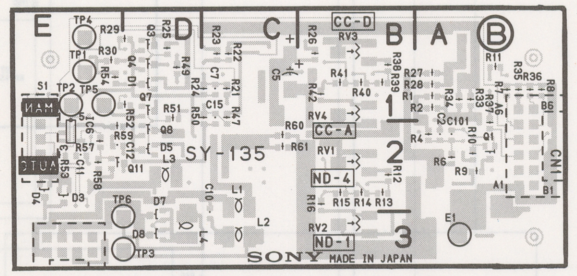
∗ Soldering Side

| | |
|---|---|
| CN1 | A-2 |
| CN2 | E-3 |
| ∗D1 | D-1 |
| D2 | C-2 |
| ∗D5 | D-2 |
| D6 | D-2 |
| E1 | A-3 |
| IC1 | A-2 |
| IC2 | B-2 |
| IC3 | B-1 |
| IC4 | C-1 |
| IC5 | D-1 |
| IC6 | D-2 |
| IC7 | D-2 |
| ∗Q1 | A-2 |
| Q2 | A-3 |
| ∗Q3 | D-1 |
| ∗Q4 | D-1 |
| Q5 | C-2 |
| Q6 | C-2 |
| ∗Q7 | D-1 |
| ∗Q8 | D-2 |
| Q9 | D-2 |
| Q10 | C-2 |
| Q11 | E-2 |
| ∗RV1 | B-2 |
| ∗RV2 | B-3 |
| ∗RV3 | B-1 |
| ∗RV4 | B-1 |
| S1 | E-2 |
| TP1 | E-1 |
| TP2 | E-1 |
| TP3 | D-3 |
| TP4 | E-1 |
| TP5 | E-1 |
| TP6 | D-3 |

Serial No. 10001 – 10300


A
B
C
D
E
Ⓐ
1
2
3
CN1
CN2
A NO. SV-135
SONY MADE IN JAPAN
1-642-640-11
LOT NO.
S No.

1-642-640-11 COMPONENT SIDE


E
D
C
B
A
Ⓑ
1
2
3
SV-135
CC-D
CC-A
ND-4
ND-1
CN1
E1
SONY MADE IN JAPAN

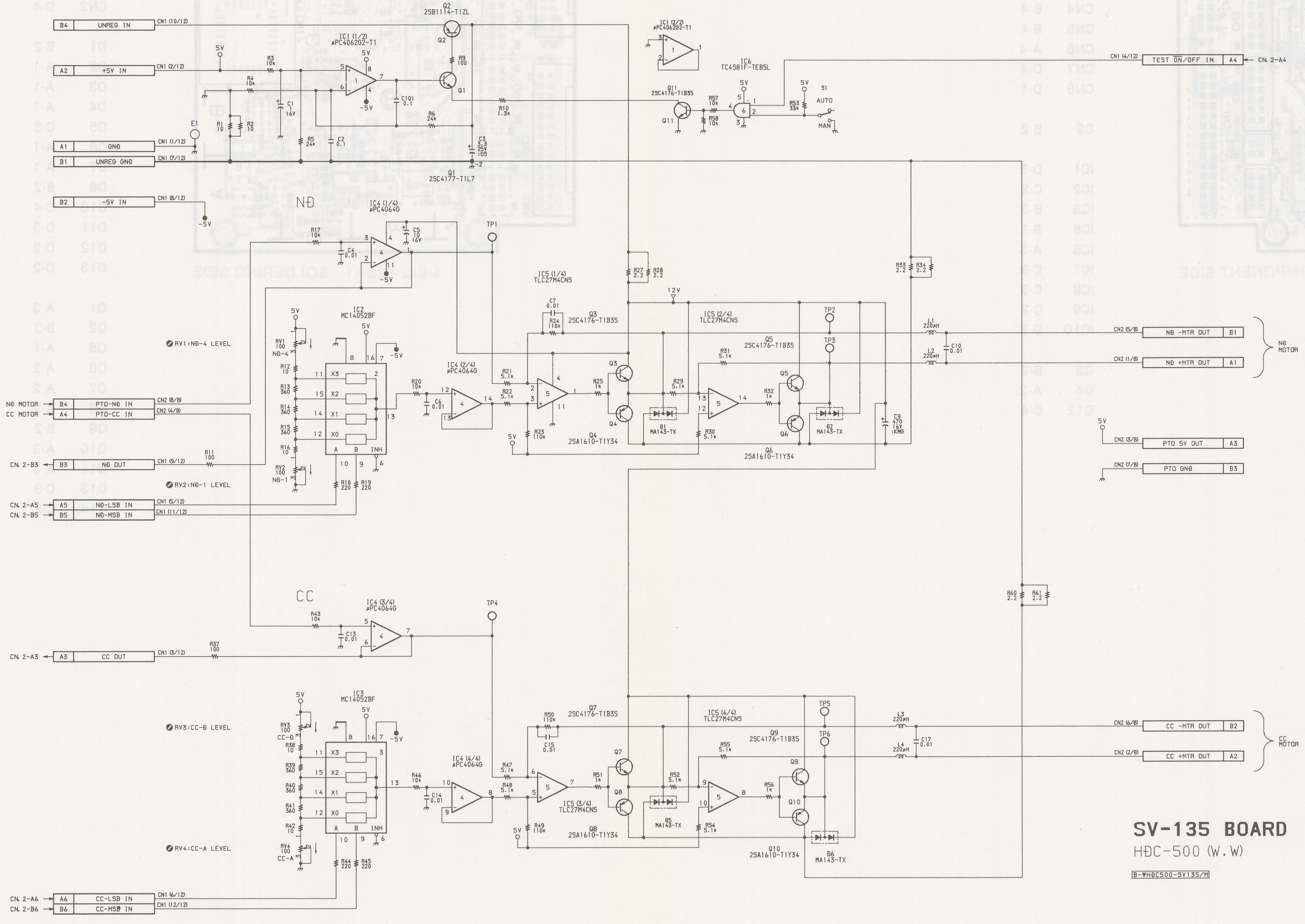
1-642-640-11 SOLDERING SIDE

SV-135 1-642-640-11

∗ Soldering Side

| | |
|---|---|
| CN1 | A-2 |
| CN2 | E-3 |
| ∗D1 | D-1 |
| D2 | C-2 |
| ∗D3 | E-2 |
| ∗D4 | E-2 |
| ∗D5 | D-2 |
| D6 | D-2 |
| ∗D7 | D-2 |
| ∗D8 | D-3 |
| E1 | A-3 |
| IC1 | A-2 |
| IC2 | B-2 |
| IC3 | B-1 |
| IC4 | C-1 |
| ∗IC6 | E-2 |
| IC5 | D-1 |
| IC7 | D-2 |
| ∗Q1 | A-2 |
| Q2 | A-3 |
| ∗Q3 | D-1 |
| ∗Q4 | D-1 |
| Q5 | C-2 |
| Q6 | C-2 |
| ∗Q7 | D-1 |
| ∗Q8 | D-2 |
| Q9 | D-2 |
| Q10 | C-2 |
| ∗Q11 | D-2 |
| ∗RV1 | B-2 |
| ∗RV2 | B-3 |
| ∗RV3 | B-1 |
| ∗RV4 | B-1 |
| S1 | E-2 |
| TP1 | E-1 |
| TP2 | E-1 |
| TP3 | D-3 |
| TP4 | E-1 |
| TP5 | E-1 |
| TP6 | D-3 |

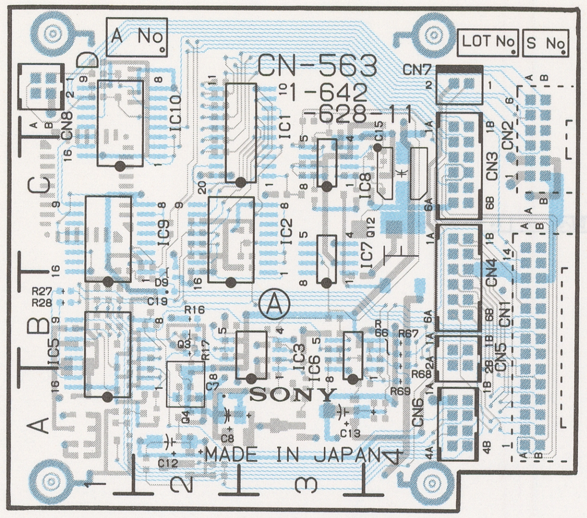
## SV-135 BOARD


B4 UNREG IN CN1 (10/12)
A2 +5V IN CN1 (2/12)
A1 GND CN1 (1/12)
B1 UNREG GND CN1 (7/12)
B2 -5V IN CN1 (8/12)
IC1 (1/2) µPC4062G2-T1
Q2 2SB1114-T1ZL
Q1 2SC4177-T1L7
IC1 (2/2) µPC4062G2-T1
IC6 TC4S81F-TE85L
Q11 2SC4176-T1B35
S1 AUTO MAN
TEST ON/OFF IN A4 CN1 (4/12) CN 2-A4
NØ
IC4 (1/4) µPC4064G
TP1
IC5 (1/4) TLC27M4CNS
IC2 MC14052BF
RV1: NØ-4 LEVEL
RV2: NØ-1 LEVEL
NØ MOTOR B4 PTO-NØ IN CN2 (8/8)
CC MOTOR A4 PTO-CC IN CN2 (4/8)
CN 2-B3 B3 NØ OUT CN1 (9/12)
CN 2-A5 A5 NØ-LSB IN CN1 (5/12)
CN 2-B5 B5 NØ-MSB IN CN1 (11/12)
IC4 (2/4) µPC4064G
Q3 2SC4176-T1B35
Q4 2SA1610-T1Y34
IC5 (2/4) TLC27M4CNS
Q5 2SC4176-T1B35
Q6 2SA1610-T1Y34
D1 MA143-TX
D2 MA143-TX
TP2
TP3
NØ -MTR OUT B1 CN2 (5/8)
NØ +MTR OUT A1 CN2 (1/8)
NØ MOTOR
PTO 5V OUT A3 CN2 (3/8)
PTO GND B3 CN2 (7/8)
CC
IC4 (3/4) µPC4064G
TP4
CN 2-A3 A3 CC OUT CN1 (3/12)
IC3 MC14052BF
RV3: CC-Ø LEVEL
RV4: CC-A LEVEL
IC4 (4/4) µPC4064G
Q7 2SC4176-T1B35
Q8 2SA1610-T1Y34
IC5 (3/4) TLC27M4CNS
IC5 (4/4) TLC27M4CNS
Q9 2SC4176-T1B35
Q10 2SA1610-T1Y34
D5 MA143-TX
D6 MA143-TX
TP5
TP6
CC -MTR OUT B2 CN2 (6/8)
CC +MTR OUT A2 CN2 (2/8)
CC MOTOR
CN 2-A6 A6 CC-LSB IN CN1 (6/12)
CN 2-B6 B6 CC-MSB IN CN1 (12/12)

**SV-135 BOARD**
HDC-500 (W.W)

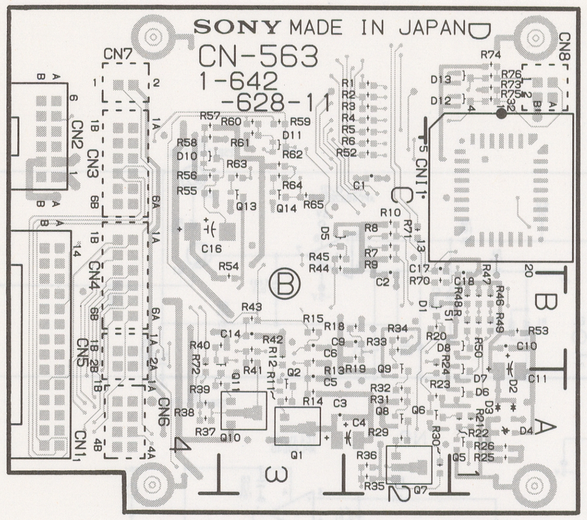
B-WHDC500-SV135/M

## CN-563 BOARD


A No
LOT No
S No
CN-563
1-642
-628-11
SONY
MADE IN JAPAN
CN7
CN8
CN2
CN3
CN4
CN1
CN5
CN6
IC1
IC2
IC3
IC5
IC6
IC7
IC8
IC9
IC10
D9
Q3
Q4
Q12
A
B
C
D
1
2
3
4

1-642-628-11 COMPONENT SIDE

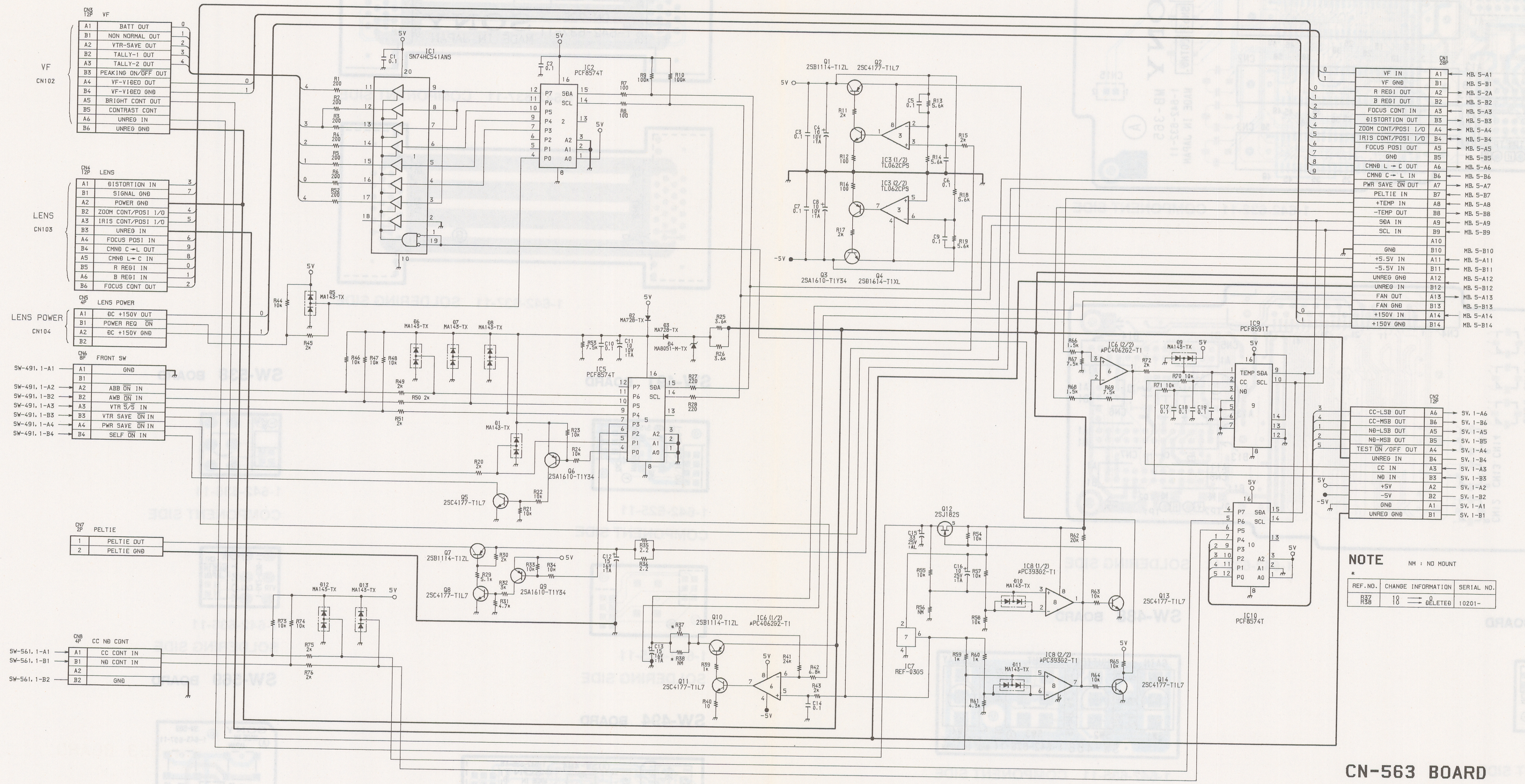
| CN-563 1-642-628-11 | |
|---|---|
| CN3 | C-4 |
| CN4 | B-4 |
| CN5 | B-4 |
| CN6 | A-4 |
| CN7 | D-4 |
| CN8 | D-1 |
| D9 | B-2 |
| IC1 | D-3 |
| IC2 | C-3 |
| IC3 | B-3 |
| IC5 | B-1 |
| IC6 | A-3 |
| IC7 | C-3 |
| IC8 | C-3 |
| IC9 | C-2 |
| IC10 | D-2 |
| Q3 | B-2 |
| Q4 | A-2 |
| Q12 | C-4 |


SONY MADE IN JAPAN
CN-563
1-642
-628-11
CN7
CN8
CN1
CN2
CN3
CN4
CN5
CN6
A
B
C
D
1
2
3
4

1-642-628-11 SOLDERING SIDE

| CN-563 1-642-628-11 | |
|---|---|
| CN1 | A-4 |
| CN2 | D-4 |
| D1 | B-2 |
| D2 | A-1 |
| D3 | A-1 |
| D4 | A-1 |
| D5 | C-3 |
| D6 | A-1 |
| D7 | A-1 |
| D8 | B-2 |
| D10 | C-4 |
| D11 | D-3 |
| D12 | D-2 |
| D13 | D-2 |
| Q1 | A-3 |
| Q2 | B-3 |
| Q5 | A-1 |
| Q6 | A-2 |
| Q7 | A-2 |
| Q8 | A-2 |
| Q9 | B-2 |
| Q10 | A-3 |
| Q11 | A-3 |
| Q13 | C-3 |
| Q14 | C-3 |

## CN-563 BOARD


CN3 12P VF
VF CN102
A1 BATT OUT
B1 NON NORMAL OUT
A2 VTR-SAVE OUT
B2 TALLY-1 OUT
A3 TALLY-2 OUT
B3 PEAKING ON/OFF OUT
A4 VF-VIDEO OUT
B4 VF-VIDEO GND
A5 BRIGHT CONT OUT
B5 CONTRAST CONT
A6 UNREG IN
B6 UNREG GND
CN4 12P LENS
LENS CN103
A1 DISTORTION IN
B1 SIGNAL GND
A2 POWER GND
B2 ZOOM CONT/POSI I/O
A3 IRIS CONT/POSI I/O
B3 UNREG IN
A4 FOCUS POSI IN
B4 CMND C→L OUT
A5 CMND L→C IN
B5 R REGI IN
A6 B REGI IN
B6 FOCUS CONT OUT
CN5 4P LENS POWER
LENS POWER CN104
A1 DC +150V OUT
B1 POWER REQ ON
A2 DC +150V GND
B2
CN6 8P FRONT SW
SW-491, 1-A1 A1 GND
B1
SW-491, 1-A2 A2 ABB ON IN
SW-491, 1-B2 B2 AWB ON IN
SW-491, 1-A3 A3 VTR S/S IN
SW-491, 1-B3 B3 VTR SAVE ON IN
SW-491, 1-A4 A4 PWR SAVE ON IN
SW-491, 1-B4 B4 SELF ON IN
CN7 2P PELTIE
1 PELTIE OUT
2 PELTIE GND
CN8 4P CC ND CONT
SW-561, 1-A1 A1 CC CONT IN
SW-561, 1-B1 B1 ND CONT IN
A2
SW-561, 1-B2 B2 GND
IC1 SN74HC541ANS
IC2 PCF8574T
IC3 (1/2) TL062CPS
IC3 (2/2) TL062CPS
IC5 PCF8574T
IC6 (1/2) µPC4062G2-T1
IC6 (2/2) µPC4062G2-T1
IC7 REF-03GS
IC8 (1/2) µPC393G2-T1
IC8 (2/2) µPC393G2-T1
IC9 PCF8591T
IC10 PCF8574T
Q1 2SB1114-T1ZL
Q2 2SC4177-T1L7
Q3 2SA1610-T1Y34
Q4 2SB1614-T1XL
Q5 2SC4177-T1L7
Q6 2SA1610-T1Y34
Q7 2SB1114-T1ZL
Q8 2SC4177-T1L7
Q9 2SA1610-T1Y34
Q10 2SB1114-T1ZL
Q11 2SC4177-T1L7
Q12 2SJ182S
Q13 2SC4177-T1L7
Q14 2SC4177-T1L7
MA143-TX
MA728-TX
MA8051-M-TX
5V
-5V
CN1 28P
VF IN A1 MB, 5-A1
VF GND B1 MB, 5-B1
R REGI OUT A2 MB, 5-2A
B REGI OUT B2 MB, 5-B2
FOCUS CONT IN A3 MB, 5-A3
DISTORTION OUT B3 MB, 5-B3
ZOOM CONT/POSI I/O A4 MB, 5-A4
IRIS CONT/POSI I/O B4 MB, 5-B4
FOCUS POSI OUT A5 MB, 5-A5
GND B5 MB, 5-B5
CMND L→C OUT A6 MB, 5-A6
CMND C→L IN B6 MB, 5-B6
PWR SAVE ON OUT A7 MB, 5-A7
PELTIE IN B7 MB, 5-B7
+TEMP IN A8 MB, 5-A8
-TEMP OUT B8 MB, 5-B8
SDA IN A9 MB, 5-A9
SCL IN B9 MB, 5-B9
A10
GND B10 MB, 5-B10
+5.5V IN A11 MB, 5-A11
-5.5V IN B11 MB, 5-B11
UNREG GND A12 MB, 5-A12
UNREG IN B12 MB, 5-B12
FAN OUT A13 MB, 5-A13
FAN GND B13 MB, 5-B13
+150V IN A14 MB, 5-A14
+150V GND B14 MB, 5-B14
CN2 12P
CC-LSB OUT A6 SV, 1-A6
CC-MSB OUT B6 SV, 1-B6
ND-LSB OUT A5 SV, 1-A5
ND-MSB OUT B5 SV, 1-B5
TEST ON /OFF OUT A4 SV, 1-A4
UNREG IN B4 SV, 1-B4
CC IN A3 SV, 1-A3
ND IN B3 SV, 1-B3
+5V A2 SV, 1-A2
-5V B2 SV, 1-B2
GND A1 SV, 1-A1
UNREG GND B1 SV, 1-B1

**NOTE** NM : NO MOUNT

*

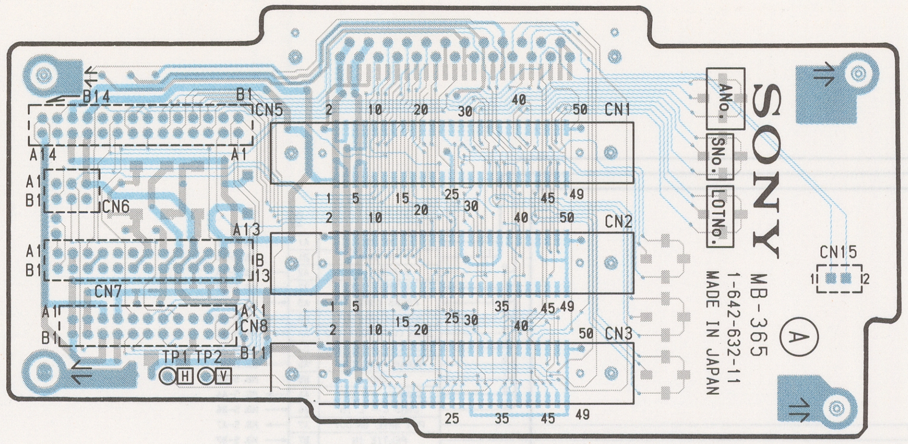
| REF.NO. | CHANGE INFORMATION | SERIAL NO. |
|---|---|---|
| R37<br>R38 | 10 → 0<br>10 → DELETED | 10201- |

## CN-563 BOARD

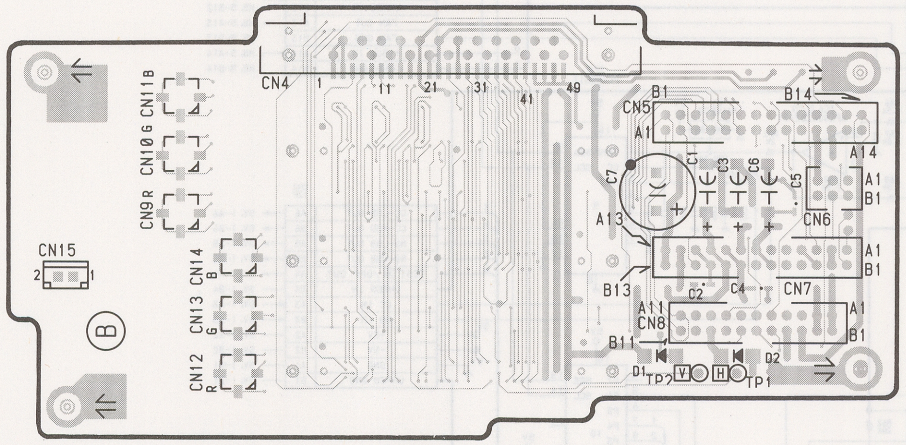
HDC-500 (W.W)

B-¥HDC500-CN563/M

## MB-365 BOARD

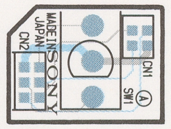

SONY
MB-365
1-642-632-11
MADE IN JAPAN
ANo.
SNo.
LOTNo.
CN1
CN2
CN3
CN5
CN6
CN7
CN8
CN15
TP1
TP2
Ⓐ

1-642-632-11 COMPONENT SIDE

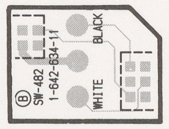

CN4
CN5
CN6
CN7
CN8
CN9
CN10
CN11
CN12
CN13
CN14
CN15
C7
TP1
TP2
D1
D2
Ⓑ

1-642-632-11 SOLDERING SIDE

## SW-482 BOARD

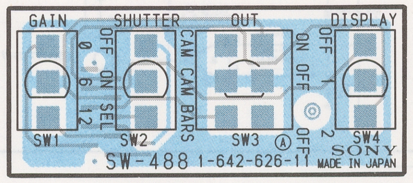

SONY
MADE IN JAPAN
CN1
CN2
SW1
Ⓐ

1-642-634-11
COMPONENT SIDE

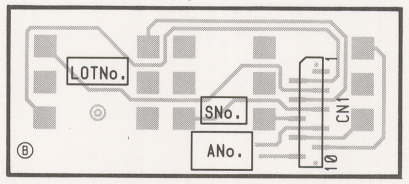

SW-482
1-642-634-11
BLACK
WHITE
Ⓑ

1-642-634-11
SOLDERING SIDE

## SW-488 BOARD

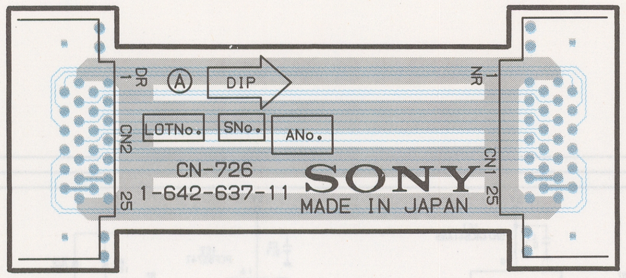

GAIN
SHUTTER
OUT
DISPLAY
SW1
SW2
SW3
SW4
SW-488
1-642-626-11
SONY
MADE IN JAPAN
Ⓐ

1-642-635-11 COMPONENT SIDE

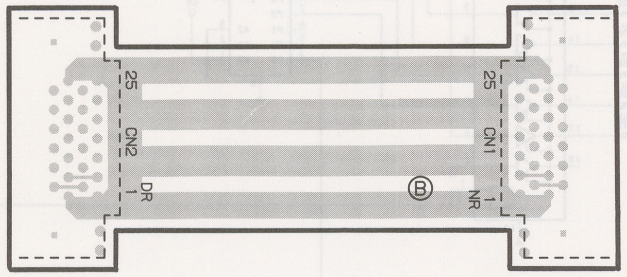

LOTNo.
SNo.
ANo.
CN1
Ⓑ

1-642-635-11 SOLDERING SIDE

## CN-726 BOARD

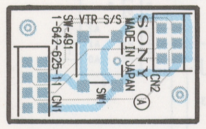

DR
Ⓐ
DIP
NR
LOTNo.
SNo.
ANo.
CN2
CN1
25
CN-726
1-642-637-11
SONY
MADE IN JAPAN

1-642-637-11 COMPONENT SIDE

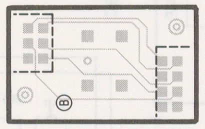

25
CN2
CN1
DR
NR
Ⓑ

1-642-637-11 SOLDERING SIDE

## SW-491 BOARD

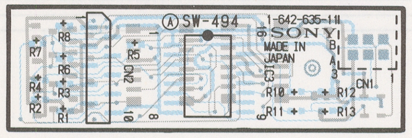

VTR S/S
SONY
MADE IN JAPAN
CN1
CN2
SW1
Ⓐ

1-642-625-11
COMPONENT SIDE

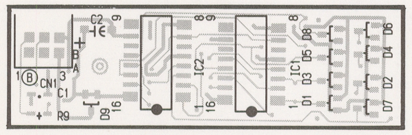


1-642-625-11
SOLDERING SIDE

## SW-494 BOARD

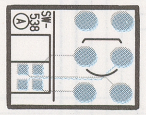

SW-494
1-642-635-11
SONY
MADE IN JAPAN
CN1
Ⓐ

1-642-626-11 COMPONENT SIDE

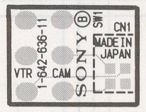


1-642-626-11 SOLDERING SIDE

## SW-538 BOARD

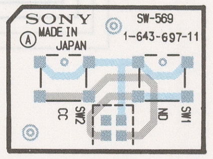


1-642-636-11
COMPONENT SIDE

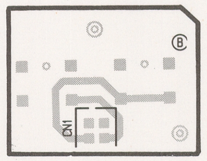

CN1
MADE IN JAPAN
SONY
VTR
CAM
Ⓑ

1-642-636-11
SOLDERING SIDE

## SW-569 BOARD


SONY
MADE IN JAPAN
SW-569
1-643-697-11
Ⓐ

1-643-697-11
COMPONENT SIDE



1-643-697-11
SOLDERING SIDE

**FRAME**
MB-365 BOARD
CN-726 BOARD
SW-482 BOARD
SW-488 BOARD
SW-491 BOARD
SW-494 BOARD
SW-538 BOARD
SW-569 BOARD

DR-163
MB-365
NR-36
BI-52 (R)
BI-52 (G)
BI-52 (B)
CN-726
VA-118
SH-45
IF-345
PS-243
CN-563
SW-491
SW-482
SW-538
FAN
CC ND FILTER
SV-135
SW-569
SW-494
SW-488

**FRAME**
MB-365 BOARD
SW-482 BOARD
SW-488 BOARD
SW-491 BOARD
SW-494 BOARD
SW-538 BOARD
SW-569 BOARD

HDC-500 (W.W)

# SECTION D
# SPARE PARTS

## PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

2. Replace parts that are supplied from Sony Parts Center can sometimes have different shape and external appearance than what are actually used in equipment. This is due to“accommodating the improved parts and/or engineering changes” or“standardization of genuine parts.”
   - This manual's exploded view and electrical spare parts lists are indicating the parts numbers of “the standardized genuine parts at present.”
   - Regarding engineering parts and diagrams changes in our engineering department, refer to Sony service bulletins and service manual supplements.

3. The parts marked with“S” in the SP column of the exploded views and electrical spare parts list are normally required for routine service work. Orders for parts marked with “O” will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

5. All capacitors are in micro farads unless otherwise specified.
   All inductors are in micro henries unless otherwise specified.
   All resistors are in ohms.

6. Regarding engineering parts changes in our engineering department, refer to SECTION E “CHANGED PARTS”.

## EXPLODED VIEW

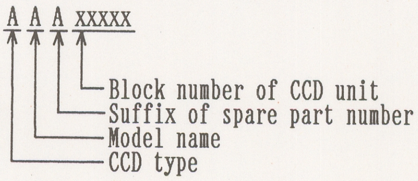
FRONT UNIT BLOCK

| No. | Part No. | SP | Description |
|---|---|---|---|
| 1 | A-7612-341-A | o | CLAMP ASSY, CORD |
| 2 | A-8262-379-A | o | HANDLE ASSY |
| 3 | A-8271-239-A | o | MOUNTED CIRCUIT BOARD, NR-36 |
| 4 | A-8271-240-A | o | MOUNTED CIRCUIT BOARD, SV-135 |
| 5 | A-8271-243-A | o | MOUNTED CIRCUIT BOARD, CN-563 |
| 6 | X-3166-631-1 | o | LEVER ASSY, FASTENING |
| 7 | X-3166-632-1 | o | HANDLE ASSY |
| 8 | X-3166-661-1 | o | PANEL SUB ASSY, FRONT |
| 9 | 1-466-742-11 | o | DISK UNIT, FILTER |
|  | 3-708-466-01 | o | FILTER |
|  | 3-708-466-11 | o | FILTER |
|  | 3-708-466-21 | o | FILTER |
|  | 3-708-466-31 | o | FILTER |
|  | 3-708-466-41 | o | FILTER |
|  | 3-708-466-51 | o | FILTER |
|  | 3-708-466-61 | o | FILTER |
| 10 | 1-554-395-00 | s | SWITCH, TOGGLE "VTR" |
| 11 | 1-562-221-51 | s | CONNECTOR, 12P FEMALE "LENS" "VF" |
| 12 | 1-565-072-21 | s | CONNECTOR, 4P FEMALE "LENS POWER" |
| 13 | 1-554-400-00 | s | SWITCH, TOGGLE "COM" |
| 14 | 1-642-625-11 | o | PRINTED CIRCUIT BOARD, SW-482 |
| 15 | 1-642-634-11 | o | PRINTED CIRCUIT BOARD, SW-491 |
| 16 | 1-642-636-11 | o | PRINTED CIRCUIT BOARD, SW-538 |
| 17 | 1-642-637-11 | o | PRINTED CIRCUIT BOARD, CN-726 |
| 18 | 1-949-892-11 | o | HARNESS (NR-MB(B)) |
| 19 | 1-949-893-11 | o | HARNESS (NR-MB(G)) |
| 20 | 1-949-904-11 | o | HARNESS (LNS-PWR) |
| 21 | 1-949-905-13 | o | HARNESS (LNS) |
| 22 | 1-949-906-13 | o | HARNESS (VF) |
| 23 | 1-949-916-11 | o | HARNESS (NR-MB(R)) |
| 24 | 3-175-440-01 | o | SCREW, FASTENING |
| 25 | 3-175-440-11 | o | SCREW, FASTENING |
| 26 | 3-175-471-01 | o | PLATE, FIXED, CH WEDGE |
| 27 | 3-175-472-01 | o | GUARD, CH WEDGE |
| 28 | 3-175-520-01 | o | WEDGE, CH |
| 29 | 3-175-529-01 | o | VENTILATOR, FRONT |
| 30 | 3-175-542-01 | s | SCREW, HANDLE |
| 31 | 3-175-544-01 | s | SCREW |
| 32 | 3-175-554-01 | o | TABLE (MAIN), UPPER |
| 33 | 3-176-355-01 | o | COVER, NR |
| 34 | 3-176-357-01 | o | STUD, PANEL |
| 35 | 3-176-460-01 | o | CLAMP, HANDLE |
| 36 | 3-176-461-01 | o | NUT, POWER |
| 37 | 3-176-528-01 | o | LABEL, FILTER |
| 38 | 3-176-545-01 | o | BRACKET, P SWITCH |
| 39 | 3-176-678-01 | o | SPACER, SCREW, 3/8" |
| 40 | 3-177-375-01 | o | FILTER, INTAKE |
| 41 | 3-672-221-02 | s | PACKING, CONTROL |
| 42 | 3-672-253-11 | o | RUBBER, CONDUCTIVE |
| 43 | 3-673-018-11 | s | SCREW, BLIND |
| 44 | 3-676-244-11 | o | COVER, SW |
| 45 | 3-686-021-02 | o | SPACER, AU PC BOARD |
| 46 | 3-687-116-01 | o | WASHER (4), STOPPER |
| 47 | 3-701-441-11 | s | WASHER |
| 48 | 3-711-228-01 | o | STANDOFF, D SUB CONN. |
| 49 | 3-731-737-01 | o | HOOK, MEASURE |
| 50 | 3-731-791-01 | o | LEVER, CORD CLAMP |
| 51 | 3-733-194-01 | o | TABLE, CLAMP, CORD |
| 52 | 3-734-234-01 | s | CAP, 1 INCH MOUNT |
| 53 | 4-882-768-02 | s | SCREW, BUTTON HEAD (M4X8) |
| 54 | A-7575-215-A | s | CCD UNIT-HDC500 (See Note*) |
| 55 | A-8262-373-B | o | COOLING UNIT |
| 56 | 1-570-472-11 | s | SWITCH, KEYBOARD "ND" "CC" |
| 57 | 1-643-697-11 | o | PRINTED CIRCUIT BOARD, SW-569 |
| 58 | 3-175-493-01 | o | PISTON |
| 59 | 3-175-494-02 | o | PLATE, HEAT |
| 60 | 3-175-495-01 | o | COVER |
| 61 | 3-175-497-01 | o | SPACER, UNIVERSAL |
| 62 | 3-175-498-01 | o | STOPPER |
| 63 | 3-175-501-02 | o | CYLINDER |
| 64 | 3-175-508-01 | o | SPRING, COMPRESSION |
| 65 | 3-175-548-02 | o | PIPE, HEAT |
| 66 | 3-177-514-01 | o | ROD, VF |
| 67 | 3-685-104-01 | s | NUT (M6), CONTROL |
| 68 | 3-724-744-03 | o | WASHER |
| 69 | 3-729-007-01 | o | PLATE, ORNAMENTAL, TOGGLE SW |
| 70 | 7-621-734-09 | s | SET-SCREW, HEX. 2.6X3 |
| 71 | 7-621-736-09 | s | SET-SCREW, HEX. 2.6X5 |
| 72 | 7-621-771-06 | s | SCREW +B 2X5 |
| 73 | 7-621-773-86 | s | SCREW +B 2.6X4 |
| 74 | 7-623-952-31 | s | WASHER 2.0, FIBER |
| 75 | 7-627-454-08 | s | SCREW, PRECISION +K2.6X3.5 |
| 76 | 7-627-554-07 | s | SCREW, PRECISION +P2X2.2 |
| 77 | 7-627-554-27 | s | SCREW, PRECISION +P2X6 |
| 78 | 7-627-554-28 | s | SCREW, PRECISION +P2X5 |
| 79 | 7-627-556-37 | s | SCREW, PRECISION +P2.6X4 |
| 80 | 7-627-556-38 | s | SCREW, PRECISION +P2.6X4 |
| 81 | 7-627-556-58 | s | SCREW, PRECISION +P2.6X5 |
| 82 | 7-627-556-78 | s | SCREW, PRECISION +P2.6X6 |
| 83 | 7-627-556-98 | s | SCREW, PRECISION +P2.6X8 |
| 84 | 7-682-547-09 | s | SCREW +B 3X6 |
| 85 | 7-683-420-04 | s | BOLT, HEXAGON SOCKET 4X10 |
| 86 | 7-683-422-04 | s | BOLT, HEXAGON SOCKET 4X14 |
| 87 | 7-683-423-04 | s | BOLT, HEXAGON SOCKET 4X16 |
| 88 | 7-688-002-12 | s | WASHER 2.6, MIDDLE |
| 89 | 7-688-004-02 | s | WASHER 4.0, SMALL |
| 90 |  | o | PELTIE |
| 91 | 3-179-820-01 | o | SPACER 2 (Ser.No.10001 TO 10300) |
| 92 | 3-179-818-01 | o | SPACER 1 (Ser.No.10301 AND HIGHER) |
| 93 | 3-179-819-01 | o | ADJUSTMENT WASHER (t=0.2) |
|  | 3-179-819-11 | o | ADJUSTMENT WASHER (t=0.3) |
|  | 3-179-819-21 | o | ADJUSTMENT WASHER (t=0.5)<br>(Ser.No.10301 AND HIGHER) |

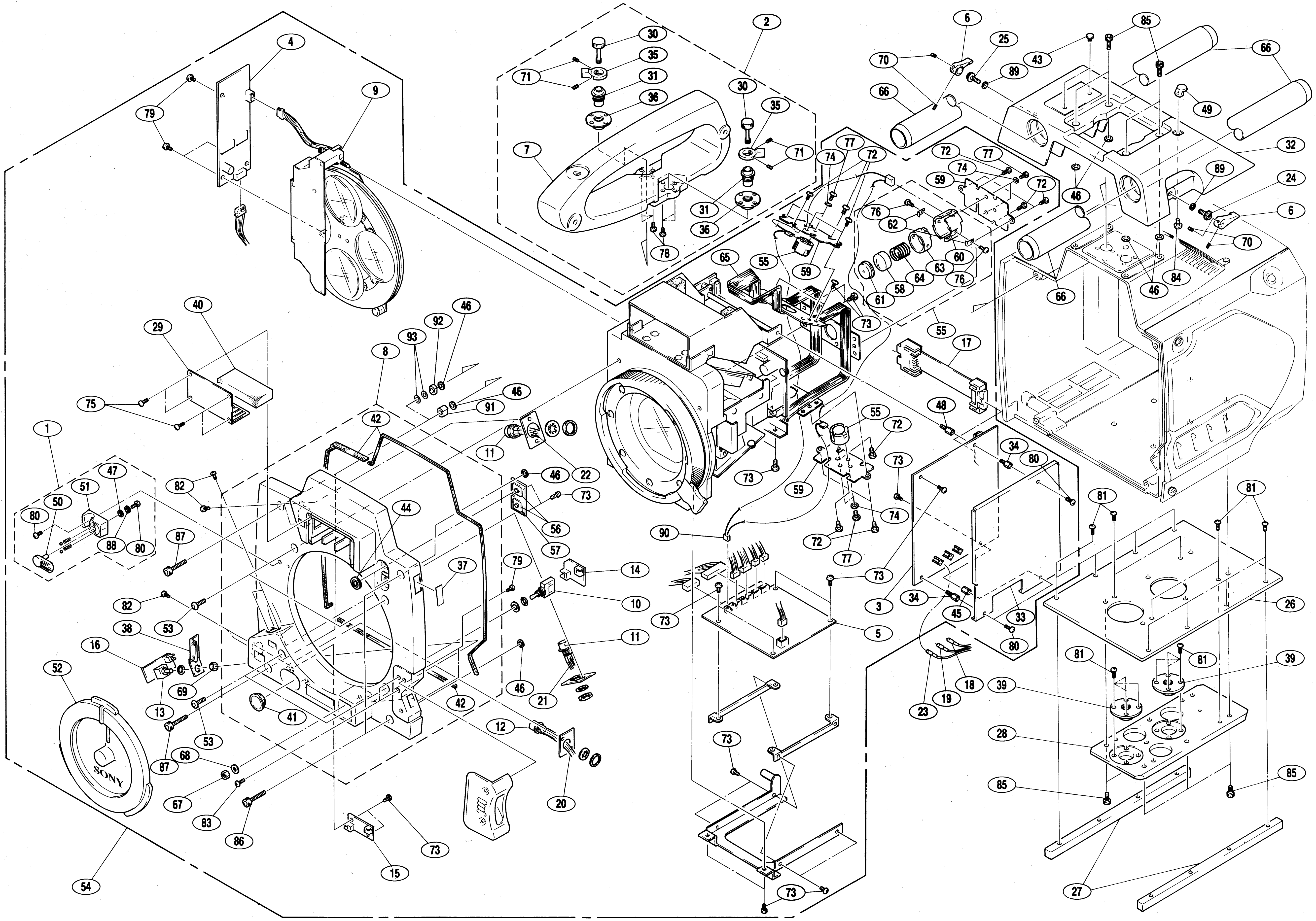
*Note

CCD BLOCK NUMBER : AAA xxxxx

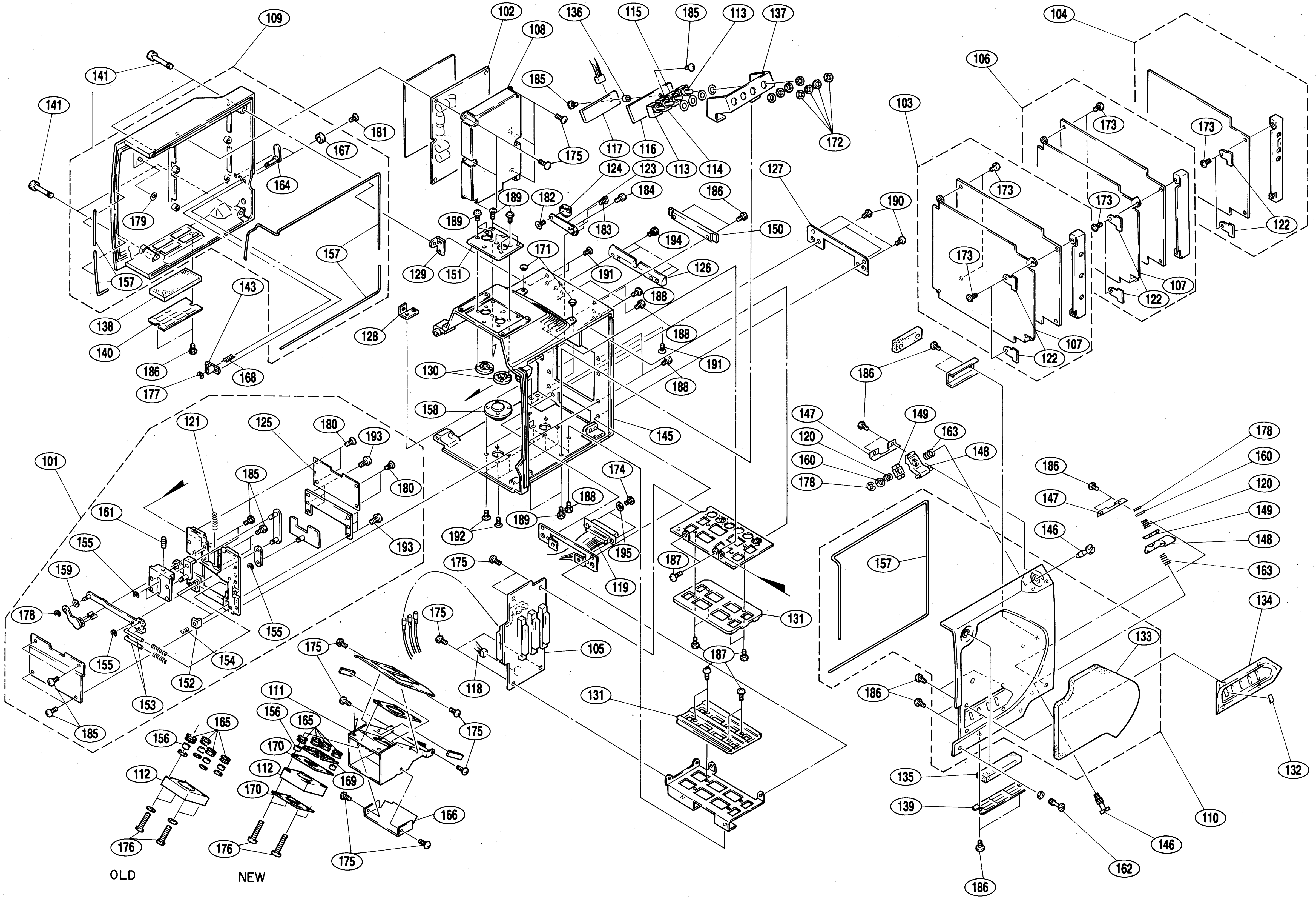
How to read the CCD BLOCK NUMBER



## FRONT UNIT BLOCK


4
79
9
30
35
71
31
36
7
2
30
35
71
31
36
78
6
25
89
70
66
43
85
66
49
32
77
74
72
72
77
74
59
72
76
62
60
63
64
58
61
76
46
89
24
6
70
46
84
66
65
55
59
73
55
17
40
29
75
1
93
92
46
8
46
91
42
11
22
47
51
50
80
88
80
82
87
44
46
73
56
57
37
79
14
10
82
53
38
16
13
69
52
41
42
46
11
21
53
87
68
67
83
86
12
20
54
73
15
48
55
72
34
80
73
73
59
74
72
77
90
73
5
3
34
45
33
80
81
81
26
81
81
39
39
18
19
23
28
85
85
73
73
27
SONY

## CABINET BLOCK


109
141
141
181
167
164
179
157
157
138
143
140
186
168
177
102
108
136
115
185
113
137
185
175
175
117
116
113
114
172
124
123
184
189
182
189
183
186
150
194
127
190
129
151
171
191
126
188
188
191
188
128
130
158
145
104
106
103
173
173
173
173
173
122
107
122
107
122
186
147
149
163
148
120
160
178
101
121
125
180
193
180
185
193
161
155
159
178
155
155
154
152
153
185
174
188
189
192
195
119
187
131
187
131
175
175
105
118
175
111
156
165
156
165
170
112
112
169
170
175
166
176
176
175
OLD
NEW
178
160
120
149
148
163
186
147
146
157
134
133
186
132
135
139
162
146
110
186

-------------

## CABINET BLOCK

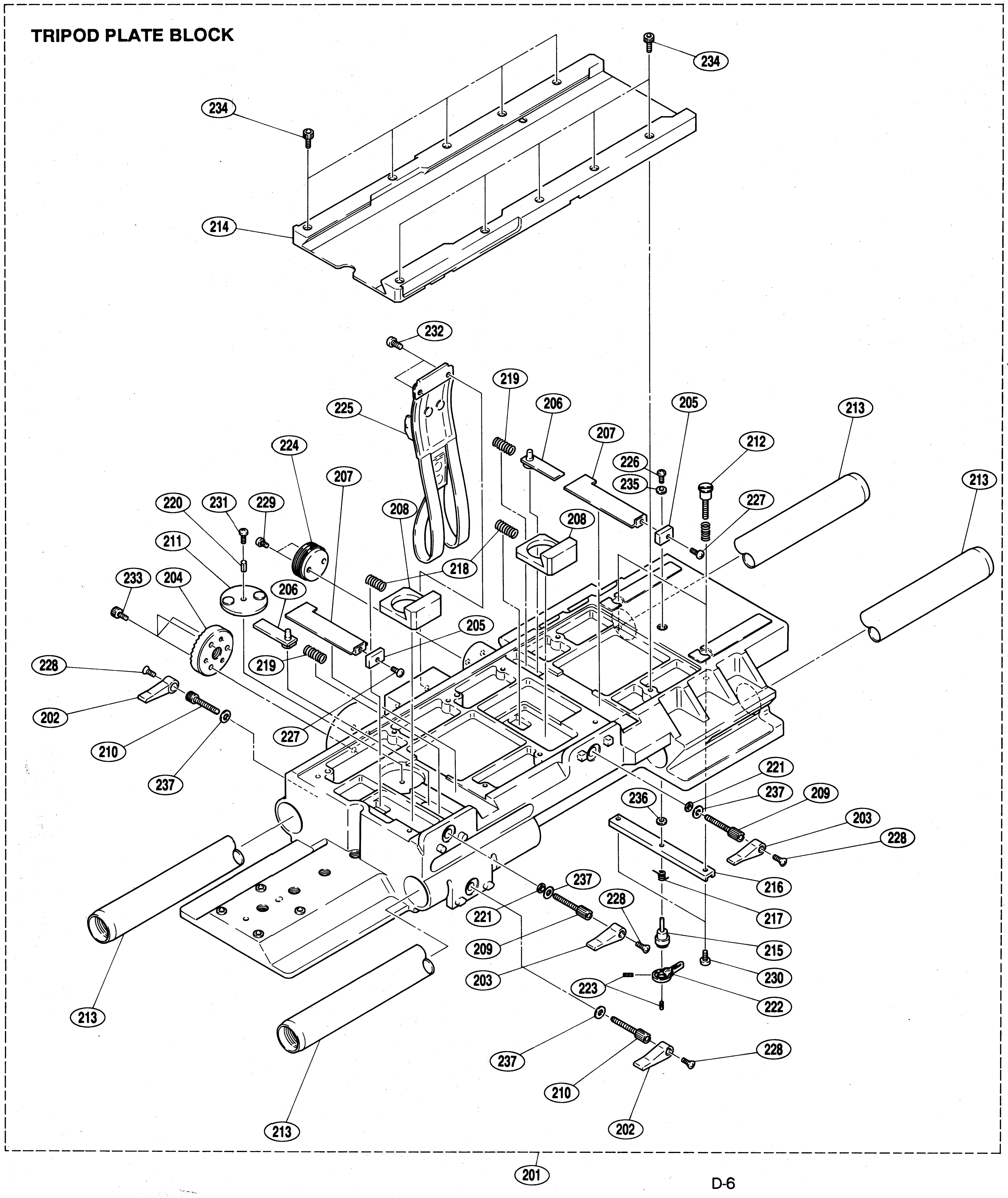
-------------

| No. | Part No. | SP | Description |
|---|---|---|---|
| 101 | A-8262-369-A | o | LOCK ASSY |
| 102 | A-8271-244-A | o | MOUNTED CIRCUIT BOARD, PS-243 |
| 103 | A-8271-245-A | o | MOUNTED CIRCUIT BOARD, VA-118 |
| 104 | A-8271-246-A | o | MOUNTED CIRCUIT BOARD, IF-345 |
| 105 | A-8271-248-A | o | MOUNTED CIRCUIT BOARD, MB-365 |
| 106 | A-8271-673-A | o | MOUNTED CIRCUIT BOARD, SH-45 |
| 107 | X-3166-656-1 | o | PLATE ASSY, SHIELD, VA |
| 108 | X-3166-657-3 | o | SHIELD ASSY, PS |
| 109 | X-3166-659-1 | o | PLATE (L) SUB ASSY, SIDE |
| 110 | X-3166-660-2 | o | PLATE (R) SUB ASSY, SIDE |
| 111 | X-3166-743-2 | o | HOLDER ASSY, FAN |
| 112 | 1-541-950-11 | s | FAN, DC |
| 113 | 1-554-356-00 | s | SWITCH, TOGGLE "GAIN" "VF IND" |
| 114 | 1-554-770-11 | s | SWITCH, TOGGLE "SHUTTER" |
| 115 | 1-570-911-11 | s | SWITCH, TOGGLE "OUT" |
| 116 | 1-642-626-11 | o | PRINTED CIRCUIT BOARD, SW-488 |
| 117 | 1-642-635-11 | o | PRINTED CIRCUIT BOARD, SW-494 |
| 118 | 1-949-896-13 | o | HARNESS (SW-MB) |
| 119 | 1-949-898-11 | s | HARNESS (SYSTEM) |
| 120 | 2-357-606-01 | s | SPRING, COMPRESSION |
| 121 | 3-127-111-00 | s | SPRING |
| 122 | 3-175-429-01 | s | KNOB, PULL OUT |
| 123 | 3-175-435-01 | s | LEVER, RELEASE |
| 124 | 3-175-439-01 | s | COVER, LEVER |
| 125 | 3-175-446-01 | o | COVER, SEAL |
| 126 | 3-175-451-01 | o | WEDGE (CAM) |
| 127 | 3-175-452-01 | o | PLATE (CHU), CN |
| 128 | 3-175-454-01 | o | STOPPER (LOWER), PLATE, SIDE |
| 129 | 3-175-455-01 | o | STOPPER (UPPER), SIDE PLATE |
| 130 | 3-175-456-01 | o | WASHER, 1/4 INCH SCREW |
| 131 | 3-175-487-01 | o | RAIL, PC BOARD |
| 132 | 3-175-507-01 | o | LABEL |
| 133 | 3-175-514-01 | s | PAD, SIDE PLATE |
| 134 | 3-175-516-01 | o | GUARD (F), SWITCH |
| 135 | 3-175-528-01 | o | FILTER (R) |
| 136 | 3-175-533-01 | o | SPACER |
| 137 | 3-175-534-01 | o | BRACKET, F-SW |
| 138 | 3-175-535-01 | o | FILTER (L) |
| 139 | 3-175-536-01 | o | PLATE (R), FILTER |
| 140 | 3-175-537-01 | o | PLATE (L), FILTER |
| 141 | 3-175-538-01 | s | SCREW (M4X20), LID |
| 143 | 3-175-541-01 | o | RETAINER, PIN, SPRING |
| 145 | 3-175-551-01 | o | CABINET |
| 146 | 3-175-601-01 | s | SCREW,COIN,CROSS-RECESSED HEAD |
| 147 | 3-175-602-01 | o | RETAINER |
| 148 | 3-175-762-01 | o | LEVER, LOCK |
| 149 | 3-175-763-01 | o | HORSE (M4) |
| 150 | 3-176-354-01 | o | BUMPER |
| 151 | 3-176-359-01 | o | PLATE, POSITIONING |
| 152 | 3-176-362-01 | o | RELEASE BLOCK |
| 153 | 3-176-363-01 | o | HOLD, SPRING |
| 154 | 3-575-456-00 | s | SPRING, COMPRESSION |
| 155 | 3-618-189-00 | s | RING, RETAINING |
| 156 | 3-661-806-00 | o | SPACER (2.6X4) |
| 157 | 3-672-253-21 | o | RUBBER, CONDUCTIVE |
| 158 | 3-693-654-02 | o | SCREW (3/8 ), TRIPOD |
| 159 | 3-701-439-01 | s | WASHER |
| 160 | 3-701-439-11 | s | WASHER |
| 161 | 3-701-512-01 | s | SET SCREW, DOUBLE POINT,(M4X8) |
| 162 | 3-729-091-41 | s | SCREW (M4X10) |
| 163 | 4-882-670-00 | s | SPRING, COMPRESSION |
| 164 | X-3166-877-1 | o | PLATE ASSY, SAFETY |
| 165 | 3-175-712-01 | o | BUSHING, RUBBER |
| 166 | 3-177-787-01 | o | COVER, FAN |
| 167 | 3-178-656-01 | o | WASHER (2), SCREW |
| 168 | 3-178-657-01 | o | SPRING, TORSION |
| 169 | 3-178-784-01 | o | CUSHION, AIR SEAL |
| 170 | 3-178-785-01 | o | SPACER, FAN (Ser.No.10101 AND HIGHER) |
| 171 | 3-673-018-11 | o | SCREW, BLIND |
| 172 | 3-729-007-01 | o | PLATE, ORNAMENTAL, TOGGLE SW |
| 173 | 7-621-771-06 | s | SCREW +B2X5 |
| 174 | 7-621-772-18 | s | SCREW +B2X4 |
| 175 | 7-621-773-86 | s | SCREW +B2.6X4 |
| 176 | 7-621-775-90 | s | SCREW +B2.6X20 |
| 177 | 7-624-102-04 | s | STOP RING 1.5 |
| 178 | 7-624-133-04 | s | STOP RING 3.0 |
| 179 | 7-624-200-11 | s | NUT, PUSH 2.0 |
| 180 | 7-627-452-18 | s | SCREW, PRECISION +K2X3 |
| 181 | 7-627-452-28 | s | SCREW, PRECISION +K2X4 |
| 182 | 7-627-454-08 | s | SCREW, PRECISION +K2.6X3.5 |
| 183 | 7-627-454-38 | s | SCREW, PRECISION +K2.6X5 |
| 184 | 7-627-553-48 | s | SCREW, PRECISION +P2X4 |
| 185 | 7-627-556-17 | s | SCREW, PRECISION +P2.6X3 |
| 186 | 7-627-556-38 | s | SCREW, PRECISION +P2.6X4.0 |
| 187 | 7-627-556-57 | s | SCREW, PRECISION +P2.6X5.0 |
| 188 | 7-627-556-58 | s | SCREW, PRECISION +P2.6X5.0 |
| 189 | 7-627-556-78 | s | SCREW, PRECISION +P2.6X6.0 |
| 190 | 7-627-556-97 | s | SCREW, PRECISION +P2.6X8.0 |
| 191 | 7-682-246-09 | s | SCREW +K3X5 |
| 192 | 7-682-248-09 | s | SCREW +K3X8 |
| 193 | 7-682-546-09 | s | SCREW +B3X5 |
| 194 | 7-683-402-04 | s | BOLT, HEXAGON SOCKET 3X5 |
| 195 | 7-688-001-01 | s | WASHER 2, MIDDLE |

## TRIPOD PLATE BLOCK

| No. | Part No. | SP | Description |
|---|---|---|---|
| 201 | A-8262-378-A | o | PLATE ASSY, TRIPOD |
| 202 | 2-134-729-01 | o | LEVER, FASTENING |
| 203 | 2-134-729-11 | o | LEVER, FASTENING |
| 204 | 2-280-511-12 | o | BRACKET, ADJUSTMENT, ANGLE |
| 205 | 3-167-513-11 | o | KNOB, RELEASE LEVER |
| 206 | 3-175-441-01 | o | STOPPER |
| 207 | 3-175-463-01 | o | BAR, RELEASE |
| 208 | 3-175-464-01 | o | WEDGE, CONCLUDE |
| 209 | 3-175-465-02 | s | SCREW, WEDGE FASTENING |
| 210 | 3-175-466-01 | s | SCREW, ROD FASTENING |
| 211 | 3-175-468-02 | o | PLATE, COMMUNICATE |
| 212 | 3-175-473-01 | s | HOOK |
| 213 | 3-175-519-01 | s | ROD, ACCESSORY |
| 214 | 3-175-550-01 | o | RAIL UNIT (L) |
| 215 | 3-176-457-01 | o | SCREW, ADJUSTMENT |
| 216 | 3-176-458-01 | s | BAR, JOINT |
| 217 | 3-177-645-01 | o | SPRING, TORSION |
| 218 | 3-546-614-00 | s | SPRING, COMPRESSION |
| 219 | 3-570-230-01 | s | SPRING, COMPRESSION |
| 220 | 3-657-842-01 | s | SPACER (3X4) |
| 221 | 3-669-946-00 | s | RING (P4), O |
| 222 | 3-673-046-00 | s | LEVER, LOCK |
| 223 | 3-701-506-01 | s | SET SCREW, DOUBLE POINT 3X4 |
| 224 | 3-731-781-01 | o | STOPPER, CAP |
| 225 | 3-734-214-01 | s | CLAMP, CABLE |
| 226 | 7-621-772-00 | s | SCREW +B2X3 |
| 227 | 7-627-553-38 | s | SCREW, PRECISION +P2X3 |
| 228 | 7-682-348-09 | s | SCREW +RK3X8 |
| 229 | 7-682-546-09 | s | SCREW +B3X5 |
| 230 | 7-682-547-09 | s | SCREW +B3X6 |
| 231 | 7-682-548-09 | s | SCREW +B3X8 |
| 232 | 7-682-561-09 | s | SCREW +B4X8 |
| 233 | 7-683-403-04 | s | BOLT, HEXAGON SOCKET 3X6 |
| 234 | 7-683-405-04 | s | BOLT, HEXAGON SOCKET 3X10 |
| 235 | 7-688-001-02 | s | WASHER 2, MIDDLE |
| 236 | 7-688-003-02 | s | WASHER 3, SMALL |
| 237 | 7-688-004-12 | s | WASHER 4, MIDDLE |

### TRIPOD PLATE BLOCK


234
234
214
232
225
219
206
205
213
224
207
226
212
235
207
227
213
220
231
229
208
208
211
218
233
204
206
205
228
219
202
227
210
237
221
237
209
236
203
228
216
237
217
221
228
209
215
203
230
223
222
213
237
228
210
213
202
201

# ELECTRICAL PARTS

## CN-563 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8271-243-A | o | MOUNTED CIRCUIT BOARD, CN-563 |
| C1 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C2 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C3 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C4 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C5 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C6 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C7 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C8 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C9 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C10 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C11 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C12 | 1-135-160-21 | s | TANTALUM, CHIP 15uF 10% 16V |
| C13 | 1-135-160-21 | s | TANTALUM, CHIP 15uF 10% 16V |
| C14 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C15 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C16 | 1-135-138-11 | s | TANTALUM, CHIP 10uF 20% 25V |
| C17 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C18 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C19 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| CN1 | 1-580-569-11 | o | PIN, CONNECTOR (PC BOARD) 28P |
| CN2 | 1-580-561-11 | o | PIN, CONNECTOR 12P |
| CN3 | 1-580-535-11 | o | PIN, CONNECTOR 12P |
| CN4 | 1-580-535-11 | o | PIN, CONNECTOR 12P |
| CN5 | 1-580-531-11 | o | PIN, CONNECTOR 4P |
| CN6 | 1-580-533-11 | s | PIN, CONNECTOR 8P |
| CN7 | 1-506-467-11 | o | CONNECTOR, 2P, MALE |
| CN8 | 1-580-531-11 | o | PIN, CONNECTOR 4P |
| CNI11 | 1-540-151-11 | s | SOCKET, IC |
| D1 | 8-719-800-76 | s | DIODE 1SS226 |
| D2 | 8-719-421-27 | s | DIODE MA728 |
| D3 | 8-719-421-27 | s | DIODE MA728 |
| D4 | 8-719-420-90 | s | DIODE MA8051-M |
| D5 | 8-719-800-76 | s | DIODE 1SS226 |
| D6 | 8-719-800-76 | s | DIODE 1SS226 |
| D7 | 8-719-800-76 | s | DIODE 1SS226 |
| D8 | 8-719-800-76 | s | DIODE 1SS226 |
| D9 | 8-719-800-76 | s | DIODE 1SS226 |
| D10 | 8-719-800-76 | s | DIODE 1SS226 |
| D11 | 8-719-800-76 | s | DIODE 1SS226 |
| D12 | 8-719-800-76 | s | DIODE 1SS226 |
| D13 | 8-719-800-76 | s | DIODE 1SS226 |
| IC1 | 8-759-926-77 | s | IC SN74HC541ANS |
| IC2 | 8-759-990-61 | s | IC PCF8574T |
| IC3 | 8-759-906-53 | s | IC TL062CPS |
| IC5 | 8-759-990-61 | s | IC PCF8574T |
| IC6 | 8-759-142-20 | s | IC UPC4062G2 |
| IC7 | 8-759-066-68 | s | IC REF-03GS |
| IC8 | 8-759-100-93 | s | IC UPC393G2 |
| IC9 | 8-759-057-06 | s | IC PCF8591T |
| IC10 | 8-759-990-61 | s | IC PCF8574T |
| Q1 | 8-729-805-25 | s | TRANSISTOR 2SB1121 |
| Q2 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q3 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q4 | 8-729-807-16 | s | TRANSISTOR 2SD1621 |
| Q5 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |

(CN-563 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| Q6 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q7 | 8-729-805-25 | s | TRANSISTOR 2SB1121 |
| Q8 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q9 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q10 | 8-729-805-25 | s | TRANSISTOR 2SB1121 |
| Q11 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q12 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| Q13 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q14 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| R1 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R2 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R3 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R4 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R5 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R6 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R7 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R8 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R9 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R10 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R11 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R12 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R13 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R14 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R15 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R16 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R17 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R18 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R19 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R20 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R21 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R22 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R23 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R24 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R25 | 1-218-705-11 | s | METAL 3.6K 0.50% 1/16W |
| R26 | 1-218-705-11 | s | METAL 3.6K 0.50% 1/16W |
| R27 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R28 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R29 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R30 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R31 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R32 | 1-216-865-11 | s | METAL, CHIP 3K 1/16W |
| R33 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R34 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R35 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R36 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R37 | 1-216-864-11 | s | METAL, CHIP 0-OHM |
| R39 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R40 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R41 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R42 | 1-216-795-11 | s | METAL 6.8K 0.50% 1/16W |
| R43 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R44 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R45 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R46 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R47 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R48 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R49 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R50 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R51 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |

### (CN-563 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R52 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R53 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R54 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R55 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R57 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R58 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R59 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R60 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R61 | 1-218-707-11 | s | METAL 4.3K 0.50% 1/16W |
| R62 | 1-218-723-11 | s | METAL 20K 0.50% 1/16W |
| R63 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R64 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R65 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R66 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R67 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R68 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R69 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R70 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R71 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R72 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R73 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R74 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R75 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R76 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |

### CN-726 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 1-642-637-11 | o | PRINTED CIRCUIT BOARD, CN-726 |
| CN1 | 1-691-841-11 | o | CONNECTOR, 26P FEMALE |
| CN2 | 1-691-842-11 | o | CONNECTOR, 26P MALE |

### EX-317 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8271-249-A | o | MOUNTED CIRCUIT BOARD, EX-317 |
| 3pcs | 7-621-773-86 | s | SCREW +B 2.6X4 |
| 3pcs | 7-627-553-37 | s | SCREW,PRECISION +P 2X3 |
| 4pcs | 7-627-553-68 | s | SCREW,PRECISION +P 2X6 |
| CN1 | 1-691-847-11 | o | CONNECTOR (SQUARE TYPE) 50P |
| CN2 | 1-691-846-11 | o | CONNECTOR (SQUARE TYPE) 50P |

### IF-345 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8271-246-A | o | MOUNTED CIRCUIT BOARD, IF-345 |
| 2pcs | 3-175-429-01 | s | KNOB, PULL OUT |
| 2pcs | 7-621-771-06 | s | SCREW +B 2X5 |
| 2pcs | 7-627-553-68 | s | SCREW,PRECISION +P 2X6 |
| C1 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C2 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C3 | 1-135-076-21 | s | TANTALUM, CHIP 1uF 10% 35V |
| C4 | 1-135-070-00 | s | TANTALUM, CHIP 0.1uF 10% 35V |
| C5 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C6 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C7 | 1-135-091-00 | s | TANTALUN, CHIP 1uF 10% 16V |
| C8 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C9 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C10 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C11 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C12 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C13 | 1-135-091-00 | s | TANTALUN, CHIP 1uF 10% 16V |
| C14 | 1-162-964-11 | s | CERAMIC 0.001uF 10% 50V |
| C15 | 1-162-964-11 | s | CERAMIC 0.001uF 10% 50V |
| C16 | 1-135-091-00 | s | TANTALUN, CHIP 1uF 10% 16V |
| C17 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C18 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C19 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C20 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C21 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C22 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C23 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C24 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C25 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C26 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C27 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C28 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C29 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C30 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C31 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C32 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C33 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C34 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C35 | 1-135-212-21 | s | TANTAL 2.2uF 10% 35V |
| C36 | 1-135-212-21 | s | TANTAL 2.2uF 10% 35V |
| C37 | 1-135-156-21 | s | TANTALUM, CHIP 6.8uF 10% 6.3V |
| C38 | 1-135-156-21 | s | TANTALUM, CHIP 6.8uF 10% 6.3V |
| C39 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C40 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C41 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C42 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C43 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C44 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C45 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C46 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C47 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C48 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C49 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C50 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C51 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C52 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C53 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C54 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C55 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |

(IF-345 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C56 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C57 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C58 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C59 | 1-125-513-11 | s | CAP, DOUBLE LAYERS 0.047F |
| C60 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C61 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C62 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C63 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C64 | 1-162-917-11 | s | CERAMIC, CHIP 15PF 5% 50V |
| C65 | 1-162-917-11 | s | CERAMIC, CHIP 15PF 5% 50V |
| C66 | 1-162-917-11 | s | CERAMIC, CHIP 15PF 5% 50V |
| C67 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C68 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| C69 | 1-164-360-11 | s | CERAMIC 0.1uF 16V |
| CN1 | 1-691-847-11 | o | CONNECTOR (SQUARE TYPE) 50P |
| CNI5 | 1-540-254-11 | o | SOCKET, IC (PLCC) |
| CNI15 | 1-540-252-11 | o | SOCKET, IC (PLCC) |
| CNI21 | 1-540-151-11 | s | SOCKET, IC |
| D1 | 8-719-421-15 | s | DIODE MA8027-L |
| D2 | 8-719-404-35 | s | DIODE MA141WK |
| D3 | 8-719-800-76 | s | DIODE 1SS226 |
| D4 | 8-719-800-76 | s | DIODE 1SS226 |
| D5 | 8-719-800-76 | s | DIODE 1SS226 |
| D6 | 8-719-800-76 | s | DIODE 1SS226 |
| D7 | 8-719-800-76 | s | DIODE 1SS226 |
| D8 | 8-719-800-76 | s | DIODE 1SS226 |
| D9 | 8-719-800-76 | s | DIODE 1SS226 |
| D10 | 8-719-800-76 | s | DIODE 1SS226 |
| IC1 | 8-759-142-19 | s | IC UPC4064G |
| IC2 | 8-759-141-61 | s | IC UPA103G |
| IC3 | 8-759-142-19 | s | IC UPC4064G |
| IC4 | 8-759-066-68 | s | IC REF-03GS |
| IC5 | 8-759-064-15 | s | IC 5064-IF345-V1.0 |
| IC6 | 8-759-009-02 | s | IC MC14046BF |
| IC7 | 8-759-242-64 | s | IC TC4W53F |
| IC8 | 8-759-142-20 | s | IC UPC4062G2 |
| IC9 | 8-759-973-71 | s | IC TL7705CPS-B |
| IC10 | 8-759-927-46 | s | IC SN74HC00NS |
| IC11 | 8-759-925-74 | s | IC SN74HC04ANS |
| IC12 | 8-759-732-26 | s | IC HD637B01Y0F/LENSIF |
| IC13 | 8-759-101-12 | s | IC UPC311G2 |
| IC14 | 8-759-927-46 | s | IC SN74HC00NS |
| IC15 | 8-759-323-74 | s | IC HD6475328CP10 |
| IC16 | 8-759-300-71 | s | IC MC14053BF |
| IC17 | 8-759-300-71 | s | IC MC14053BF |
| IC18 | 8-759-300-71 | s | IC MC14053BF |
| IC19 | 8-759-142-19 | s | IC UPC4064G |
| IC20 | 8-759-063-13 | s | IC 9800-IF345-V1.0, PLD |
| IC21 | 8-759-063-16 | s | IC 27C512-CHU-V1.0, EPROM |
| IC22 | 8-759-938-68 | s | IC CXD1095Q |
| IC23 | 8-759-322-72 | s | IC HM6264ALFP-10 |
| IC25 | 8-759-054-58 | s | IC AD7542JP |
| IC26 | 8-759-054-58 | s | IC AD7542JP |
| IC27 | 8-759-054-58 | s | IC AD7542JP |
| L1 | 1-410-389-31 | s | INDUCTOR, CHIP 47uH |
| Q1 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |

(IF-345 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| Q2 | 8-729-805-25 | s | TRANSISTOR 2SB1121 |
| Q3 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q4 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q5 | 8-729-807-16 | s | TRANSISTOR 2SD1621 |
| Q6 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q7 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q8 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q9 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q10 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q11 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q12 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q13 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q14 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q15 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q16 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q17 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q18 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q19 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q20 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q21 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q22 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q23 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q24 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q25 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q26 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| R1 | 1-216-864-11 | s | METAL, CHIP 0-OHM |
| R2 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R3 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R4 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R5 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R6 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R7 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R8 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R9 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R10 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R11 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R12 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R13 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R14 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R15 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R16 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R17 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R18 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R19 | 1-218-484-11 | s | METAL 750 0.50% 1/16W |
| R20 | 1-218-288-11 | s | METAL, CHIP 300 5% 1/16W |
| R21 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R22 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R23 | 1-216-808-11 | s | METAL, CHIP 82 5% 1/16W |
| R24 | 1-216-834-11 | s | METAL, CHIP 12K 5% 1/16W |
| R25 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R26 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R27 | 1-218-289-11 | s | METAL, CHIP 510 5% 1/16W |
| R28 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R29 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R30 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R31 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R32 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R33 | 1-218-664-11 | s | METAL 68 0.50% 1/16W |
| R34 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |

(IF-345 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R35 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R36 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R37 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R38 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R39 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R40 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R41 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R42 | 1-216-857-11 | s | METAL, CHIP 1M 5% 1/16W |
| R43 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R44 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R45 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R46 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R47 | 1-216-826-11 | s | METAL, CHIP 2.7K 5% 1/16W |
| R48 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R49 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R50 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R51 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R52 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R53 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R54 | 1-218-697-11 | s | METAL 1.6K 0.50% 1/16W |
| R55 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R56 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R57 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R58 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R59 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R60 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R61 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R62 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R63 | 1-216-803-11 | s | METAL, CHIP 33 5% 1/16W |
| R64 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R65 | 1-216-864-11 | s | METAL, CHIP 0-OHM |
| R66 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R67 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R68 | 1-216-806-11 | s | METAL 56 0.50% 1/16W |
| R69 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R70 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R71 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R72 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R73 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R74 | 1-216-994-11 | s | METAL, CHIP 13K 5% 1/16W |
| R75 | 1-218-729-11 | s | METAL 36K 0.50% 1/16W |
| R76 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R77 | 1-216-859-11 | s | METAL 1.5M 5% 1/16W |
| R78 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R79 | 1-218-750-11 | s | METAL 270K 0.50% 1/16W |
| R80 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R81 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R82 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R83 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R84 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R85 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R86 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R87 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R89 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R90 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R91 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R92 | 1-218-706-11 | s | METAL 3.9K 0.50% 1/16W |
| R93 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R94 | 1-218-738-11 | s | METAL 82K 0.50% 1/16W |

(IF-345 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R95 | 1-216-864-11 | s | METAL CHIP 0-OHM |
| R96 | 1-218-750-11 | s | METAL 270K 0.50% 1/16W |
| R97 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R98 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R99 | 1-216-834-11 | s | METAL, CHIP 12K 5% 1/16W |
| R100 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R101 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R102 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R103 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R104 | 1-216-795-11 | s | METAL 6.8K 0.50% 1/16W |
| R105 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R106 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R107 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R108 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R109 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R110 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R111 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R112 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R113 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R114 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R115 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R116 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R117 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R118 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R119 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R120 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R121 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R122 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R123 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R124 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R125 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R126 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R127 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R128 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R129 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R130 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R131 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R132 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R133 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R134 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R135 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R136 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R137 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R138 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R139 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R140 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R141 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R142 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R143 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R144 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R145 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R146 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R147 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R148 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R149 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R150 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R151 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R152 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R153 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |

## (IF-345 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R154 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R155 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R156 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R157 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R158 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R159 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R160 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R161 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R162 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R163 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R164 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R165 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R166 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R167 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R168 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R169 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R170 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R171 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R172 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| RV1 | 1-241-264-11 | s | RES, ADJ, METAL 10K |
| RV2 | 1-241-262-11 | s | RES, ADJ, METAL 2K |
| RV3 | 1-237-040-11 | s | RES, ADJ, METAL 200K |
| RV4 | 1-237-034-11 | s | RES, ADJ, METAL 2K |
| RV5 | 1-237-034-11 | s | RES, ADJ, METAL 2K |
| RV6 | 1-237-034-11 | s | RES, ADJ, METAL 2K |
| S1 | 1-554-371-51 | s | SWITCH, TACTILE |
| S2 | 1-572-565-11 | s | SWITCH, DIP |
| S3 | 1-692-097-11 | s | SWITCH, ROTARY |
| S4 | 1-571-395-11 | s | SWITCH, SLIDE |
| S5 | 1-553-977-00 | s | SWITCH, SLIDE |
| S6 | 1-553-977-00 | s | SWITCH, SLIDE |
| X1 | 1-567-912-11 | s | OSCILLATOR, CERAMIC |
| X2 | 1-579-594-11 | s | VIBRATOR, CRYSTAL 19.6608MHz |

## MB-365 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8271-248-A | o | MOUNTED CIRCUIT BOARD, MB-365 |
| 8pcs | 7-627-553-68 | s | SCREW,PRECISION +P 2X6 |
| C1 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C2 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C3 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C4 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C5 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C6 | 1-135-160-21 | s | TANTALUM, CHIP 15uF 10% 16V |
| C7 | 1-128-528-11 | s | ELECT 470uF 20% 25V |
| CN1 | 1-691-845-11 | o | CONNECTOR (SQUARE TYPE) 50P |
| CN2 | 1-691-845-11 | o | CONNECTOR (SQUARE TYPE) 50P |
| CN3 | 1-691-845-11 | o | CONNECTOR (SQUARE TYPE) 50P |
| CN4 | 1-691-846-11 | o | CONNECTOR (SQUARE TYPE) 50P |
| CN6 | 1-580-532-11 | o | PIN, CONNECTOR 6P |
| CN7 | 1-580-542-11 | o | PIN, CONNECTOR 26P |
| CN9 | 1-691-843-11 | s | CONNECTOR, COAXIAL |
| CN10 | 1-691-843-11 | s | CONNECTOR, COAXIAL |
| CN11 | 1-691-843-11 | s | CONNECTOR, COAXIAL |
| CN12 | 1-691-843-11 | s | CONNECTOR, COAXIAL |
| CN13 | 1-691-843-11 | s | CONNECTOR, COAXIAL |
| CN14 | 1-691-843-11 | s | CONNECTOR, COAXIAL |
| D1 | 8-719-210-43 | s | DIODE EC10QS-06 |
| D2 | 8-719-210-43 | s | DIODE EC10QS-06 |

## NR-36 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8271-239-A | o | MOUNTED CIRCUIT BOARD, NR-36 |

## PS-243 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8271-244-A | o | MOUNTED CIRCUIT BOARD, PS-243 |
| C1 | 1-135-091-00 | s | TANTALUN, CHIP 1uF 10% 16V |
| C2 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C3 | 1-124-489-11 | s | ELECT 150uF 20% 25V |
| C5 | 1-136-165-00 | s | FILM 0.1uF 5% 50V |
| C6 | 1-164-677-11 | s | CERAMIC 0.033uF 10% 16V |
| C7 | 1-161-898-11 | s | CERAMIC 0.47uF 50V |
| C8 | 1-165-112-11 | s | CERAMIC 0.33uF 16V |
| C9 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C10 | 1-124-489-11 | s | ELECT 150uF 20% 25V |
| C11 | 1-124-489-11 | s | ELECT 150uF 20% 25V |
| C12 | 1-136-165-00 | s | FILM 0.1uF 5% 50V |
| C13 | 1-135-072-21 | s | TANTALUM, CHIP 0.22uF 10% 35V |
| C14 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C15 | 1-136-165-00 | s | FILM 0.1uF 5% 50V |
| C16 | 1-136-165-00 | s | FILM 0.1uF 5% 50V |
| C17 | 1-164-392-11 | s | CERAMIC 390PF 5% 50V |
| C18 | 1-124-604-00 | s | ELECT 330uF 20% 10V |
| C19 | 1-127-516-11 | s | ALUMN SOLID 220uF 20% 10V |
| C20 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C21 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C22 | 1-124-577-11 | s | ELECT 82uF 20% 10V |
| C23 | 1-124-577-11 | s | ELECT 82uF 20% 10V |
| C24 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C25 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C26 | 1-135-091-00 | s | TANTALUN, CHIP 1uF 10% 16V |
| C27 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C28 | 1-124-489-11 | s | ELECT 150uF 20% 25V |
| C29 | 1-161-900-11 | s | CERAMIC 1uF 50V |
| C30 | 1-136-165-00 | s | FILM 0.1uF 5% 50V |
| C31 | 1-164-245-11 | s | CERAMIC 0.015uF 10% 25V |
| C32 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C33 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C34 | 1-124-489-11 | s | ELECT 150uF 20% 25V |
| C35 | 1-124-489-11 | s | ELECT 150uF 20% 25V |
| C36 | 1-136-165-00 | s | FILM 0.1uF 5% 50V |
| C37 | 1-135-149-21 | s | TANTALUM, CHIP 2.2uF 10% 10V |
| C38 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C39 | 1-136-165-00 | s | FILM 0.1uF 5% 50V |
| C40 | 1-136-165-00 | s | FILM 0.1uF 5% 50V |
| C41 | 1-124-522-11 | s | ELECT 270uF 20% 16V |
| C42 | 1-127-517-11 | s | ELECT,SOLID 150uF 20% 16V |
| C43 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C44 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C45 | 1-124-569-11 | s | ELECT 56uF 20% 16V |
| C46 | 1-124-569-11 | s | ELECT 56uF 20% 16V |
| C47 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C48 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C49 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C50 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C51 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C52 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C53 | 1-162-969-11 | s | CERAMIC 0.0068uF 10% 25V |
| C54 | 1-164-677-11 | s | CERAMIC 0.033uF 10% 16V |
| C55 | 1-162-974-11 | s | CERAMIC 0.01uF 50V |
| C56 | 1-165-112-11 | s | CERAMIC 0.33uF 16V |
| C58 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C59 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |

(PS-243 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C60 | 1-162-924-11 | s | CERAMIC 56PF 5% 50V |
| C61 | 1-162-924-11 | s | CERAMIC 56PF 5% 50V |
| C62 | 1-124-943-11 | s | ELECT 39 20% 25V |
| C63 | 1-124-943-11 | s | ELECT 39 20% 25V |
| C64 | 1-128-096-11 | s | ELECT 18uF 20% 50V |
| C65 | 1-127-531-11 | s | ELECT(SOLID) 33uF 20% 20V |
| C66 | 1-136-165-00 | s | FILM 0.1uF 5% 50V |
| C67 | 1-136-165-00 | s | FILM 0.1uF 5% 50V |
| C68 | 1-128-096-11 | s | ELECT 18uF 20% 50V |
| C69 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C70 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C71 | 1-135-070-00 | s | TANTALUM, CHIP 0.1uF 10% 35V |
| C72 | 1-135-164-21 | s | TANTALUM, CHIP 22uF 20% 10V |
| C73 | 1-127-515-11 | s | ELECT(SOLID) 47uF 20% 10V |
| CN1 | 1-580-542-11 | o | PIN, CONNECTOR 26P |
| D1 | 8-719-023-54 | s | DIODE EA60QC06-F |
| D2 | 8-719-800-76 | s | DIODE 1SS226 |
| D3 | 8-719-800-76 | s | DIODE 1SS226 |
| D4 | 8-719-023-53 | s | DIODE EA30QS04-F |
| D5 | 8-719-210-43 | s | DIODE EC10QS-06 |
| D6 | 8-719-800-76 | s | DIODE 1SS226 |
| D7 | 8-719-800-76 | s | DIODE 1SS226 |
| D8 | 8-719-023-53 | s | DIODE EA30QS04-F |
| D9 | 8-719-210-43 | s | DIODE EC10QS-06 |
| D10 | 8-719-800-76 | s | DIODE 1SS226 |
| D11 | 8-719-800-76 | s | DIODE 1SS226 |
| D12 | 8-719-210-43 | s | DIODE EC10QS-06 |
| D13 | 8-719-210-43 | s | DIODE EC10QS-06 |
| FB1 | 1-543-528-11 | s | BEAD, AMORPHOUS |
| FB2 | 1-543-528-11 | s | BEAD, AMORPHOUS |
| FB4 | 1-543-528-11 | s | BEAD, AMORPHOUS |
| FB5 | 1-543-528-11 | s | BEAD, AMORPHOUS |
| FB6 | 1-543-528-11 | s | BEAD, AMORPHOUS |
| FB7 | 1-543-528-11 | s | BEAD, AMORPHOUS |
| IC1 | 8-759-937-35 | s | IC TL1451ACN |
| IC2 | 8-759-066-68 | s | IC REF-03GS |
| IC3 | 8-759-937-35 | s | IC TL1451ACN |
| IC4 | 8-759-937-35 | s | IC TL1451ACN |
| IC5 | 8-759-142-20 | s | IC UPC4062G2 |
| L1 | 1-410-283-11 | s | 48uH (WITH CORE) |
| L2 | 1-410-283-11 | s | 48uH (WITH CORE) |
| L3 | 1-412-048-11 | s | CHOKE 65uH |
| L4 | 1-410-283-11 | s | 48uH (WITH CORE) |
| L5 | 1-410-283-11 | s | 48uH (WITH CORE) |
| L6 | 1-410-283-11 | s | 48uH (WITH CORE) |
| L7 | 1-412-049-11 | s | CHOKE 200uH |
| L8 | 1-412-049-11 | s | CHOKE 200uH |
| L9 | 1-410-283-11 | s | 48uH (WITH CORE) |
| L10 | 1-410-283-11 | s | 48uH (WITH CORE) |
| L11 | 1-410-283-11 | s | 48uH (WITH CORE) |
| L12 | 1-410-283-11 | s | 48uH (WITH CORE) |
| L13 | 1-410-283-11 | s | 48uH (WITH CORE) |
| Q1 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q2 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q3 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q4 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q5 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |

(PS-243 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| Q6 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q7 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q8 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q9 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| Q10 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| Q11 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| Q12 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| Q13 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q14 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q15 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q16 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q17 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q18 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q19 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q20 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q21 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| Q22 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| Q23 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| Q24 | 8-729-322-45 | s | TRANSISTOR 2SJ182S |
| Q25 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q26 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q27 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q28 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q29 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q30 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q31 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q32 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q33 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q34 | 8-729-118-70 | s | TRANSISTOR 2SK739-Z |
| Q35 | 8-729-118-70 | s | TRANSISTOR 2SK739-Z |
| Q36 | 8-729-805-25 | s | TRANSISTOR 2SB1121 |
| Q37 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| R1 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R2 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R3 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R4 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R5 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R6 | 1-218-707-11 | s | METAL 4.3K 0.50% 1/16W |
| R7 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R8 | 1-218-714-11 | s | METAL 8.2K 0.50% 1/16W |
| R9 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R10 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R11 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |
| R12 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R13 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R14 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R15 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R16 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R17 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R18 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R19 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R20 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R21 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R22 | 1-218-746-11 | s | METAL 180K 0.50% 1/16W |
| R23 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R24 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R25 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R26 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |

(PS-243 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R27 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R28 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R29 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R30 | 1-216-822-11 | s | METAL, CHIP 1.2K 5% 1/16W |
| R31 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R32 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R33 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R34 | 1-218-677-11 | s | METAL 240 0.50% 1/16W |
| R35 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R36 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R37 | 1-218-330-11 | s | METAL 11K 0.50% 1/16W |
| R38 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R39 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R40 | 1-218-714-11 | s | METAL 8.2K 0.50% 1/16W |
| R41 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R42 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R43 | 1-218-290-11 | s | METAL 6.2K 0.50% 1/16W |
| R44 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R45 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R46 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R47 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R48 | 1-218-741-11 | s | METAL 110K 0.50% 1/16W |
| R49 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R50 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R51 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R52 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R53 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R54 | 1-218-744-11 | s | METAL 150K 0.50% 1/16W |
| R55 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R56 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R57 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R58 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R59 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R60 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R61 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R62 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R63 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R64 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R65 | 1-216-826-11 | s | METAL, CHIP 2.7K 5% 1/16W |
| R66 | 1-218-735-11 | s | METAL 62K 0.50% 1/16W |
| R67 | 1-218-701-11 | s | METAL 2.4K 0.50% 1/16W |
| R68 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R69 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R70 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R71 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R72 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R73 | 1-218-736-11 | s | METAL 68K 0.50% 1/16W |
| R74 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R75 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R76 | 1-218-744-11 | s | METAL 150K 0.50% 1/16W |
| R77 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R78 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R79 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R80 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R81 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R82 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R83 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R84 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R85 | 1-218-698-11 | s | METAL 1.8K 0.50% 1/16W |

(PS-243 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R86 | 1-218-698-11 | s | METAL 1.8K 0.50% 1/16W |
| R87 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R88 | 1-216-801-11 | s | METAL 22 0.50% 1/16W |
| R89 | 1-218-680-11 | s | METAL 330 0.50% 1/16W |
| R90 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R91 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R92 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |
| R93 | 1-216-812-11 | s | METAL, CHIP 180 5% 1/16W |
| R94 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| RV1 | 1-237-035-11 | s | RES, ADJ, METAL 5K |
| RV2 | 1-237-033-11 | s | RES, ADJ, METAL 1K |

## SH-45 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8271-673-A | o | MOUNTED CIRCUIT BOARD, SH-45 |
| 1pc | X-3166-656-1 | o | PLATE ASSY, SHIELD PLATE |
| 2pcs | 3-175-429-01 | s | KNOB, PULL OUT |
| 4pcs | 7-621-771-06 | s | SCREW +B 2X5 |
| 2pcs | 7-627-553-68 | s | SCREW,PRECISION +P 2X6 |
| C101 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C102 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C103 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C104 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C105 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C106 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C107 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C108 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C109 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C110 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C111 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C112 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C113 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C114 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C115 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C201 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C202 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C203 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C204 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C205 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C206 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C207 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C208 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C210 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C211 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C214 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C215 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C217 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C218 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C219 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C231 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C232 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C233 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C234 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C301 | 1-162-963-11 | s | CERAMIC, CHIP 680PF 10% 50V |
| C302 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C303 | 1-137-323-11 | s | FILM 0.01uF 5% 16V |
| C304 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C305 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C306 | 1-162-962-11 | s | CERAMIC 470PF 10% 50V |
| C307 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C308 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C309 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C310 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C311 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C312 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C313 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C314 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C315 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C316 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C317 | 1-137-323-11 | s | FILM 0.01uF 5% 16V |
| C318 | 1-137-323-11 | s | FILM 0.01uF 5% 16V |
| C319 | 1-137-323-11 | s | FILM 0.01uF 5% 16V |
| C320 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |

(SH-45 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C321 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C322 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C323 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C324 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C325 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C326 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C327 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C328 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C329 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C330 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C401 | 1-137-323-11 | s | FILM 0.01uF 5% 16V |
| C501 | 1-135-091-00 | s | TANTALUN, CHIP 1uF 10% 16V |
| C502 | 1-164-357-11 | s | CERAMIC 1000PF 5% 50V |
| C503 | 1-127-487-00 | s | ELECT(SOLID) 4.7uF 20% 10V |
| C504 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C505 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C506 | 1-135-149-21 | s | TANTALUM, CHIP 2.2uF 10% 10V |
| C507 | 1-164-357-11 | s | CERAMIC 1000PF 5% 50V |
| C508 | 1-127-487-00 | s | ELECT(SOLID) 4.7uF 20% 10V |
| C509 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C510 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C511 | 1-135-149-21 | s | TANTALUM, CHIP 2.2uF 10% 10V |
| C520 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 5PF 50V |
| C521 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 5PF 50V |
| C522 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 5PF 50V |
| C523 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 5PF 50V |
| C524 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 5PF 50V |
| C525 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 5PF 50V |
| CN1 | 1-691-847-11 | o | CONNECTOR (SQUARE TYPE) 50P |
| CN202 | 1-564-947-21 | o | PIN, SHORTING, 2P |
| CNI114 | 1-540-151-11 | s | SOCKET, IC |
| DL201 | 1-415-890-11 | s | DELAY LINE 10ns |
| DL202 | 1-415-890-11 | s | DELAY LINE 10ns |
| DL203 | 1-415-431-11 | s | DELAY LINE 50ns |
| IC101 | 8-759-973-71 | s | IC TL7705CPS-B |
| IC103 | 8-759-926-49 | s | IC SN74HC245ANS |
| IC104 | 8-759-926-49 | s | IC SN74HC245ANS |
| IC105 | 8-759-926-49 | s | IC SN74HC245ANS |
| IC106 | 8-759-031-84 | s | IC SC7S04F |
| IC108 | 8-759-926-49 | s | IC SN74HC245ANS |
| IC109 | 8-759-926-49 | s | IC SN74HC245ANS |
| IC110 | 8-759-985-36 | s | IC 74AC157SJ |
| IC111 | 8-759-990-61 | s | IC PCF8574T |
| IC112 | 8-759-985-36 | s | IC 74AC157SJ |
| IC113 | 8-759-062-18 | s | IC TC55B88-10 |
| IC115 | 8-759-062-18 | s | IC TC55B88-10 |
| IC117 | 8-759-062-18 | s | IC TC55B88-10 |
| IC118 | 8-759-322-72 | s | IC HM6264ALFP-10 |
| IC119 | 8-759-990-61 | s | IC PCF8574T |
| IC201 | 8-759-234-20 | s | IC TC7S08F |
| IC202 | 8-759-031-84 | s | IC SC7S04F |
| IC203 | 8-759-230-98 | s | IC TC74HC4052AF |
| IC204 | 8-759-142-20 | s | IC UPC4062G2 |
| IC207 | 8-759-054-61 | s | IC CLC505AJE |
| IC208 | 8-759-980-44 | s | IC TL712CPS |
| IC209 | 8-759-031-84 | s | IC SC7S04F |
| IC210 | 8-759-064-87 | s | IC CXD8268Q |

(SH-45 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC211 | 8-759-141-61 | s | IC UPA103G |
| IC213 | 8-759-209-97 | s | IC TC4S81F |
| IC221 | 8-759-035-90 | s | IC SC7S02FEL |
| IC301 | 8-759-031-84 | s | IC SC7S04F |
| IC302 | 8-759-014-29 | s | IC MC34184M |
| IC303 | 8-759-031-84 | s | IC SC7S04F |
| IC304 | 8-759-014-29 | s | IC MC34184M |
| IC305 | 8-759-030-16 | s | IC MC34182M |
| IC306 | 8-759-635-27 | s | IC M62352GP |
| IC307 | 8-759-014-29 | s | IC MC34184M |
| IC308 | 8-759-014-29 | s | IC MC34184M |
| IC309 | 8-759-014-29 | s | IC MC34184M |
| IC310 | 8-759-030-16 | s | IC MC34182M |
| IC311 | 8-759-030-16 | s | IC MC34182M |
| IC312 | 8-759-030-16 | s | IC MC34182M |
| IC313 | 8-759-230-99 | s | IC TC74HC4053AF |
| IC314 | 8-759-230-99 | s | IC TC74HC4053AF |
| IC315 | 8-759-234-20 | s | IC TC7S08F |
| IC316 | 8-759-234-20 | s | IC TC7S08F |
| IC317 | 8-759-234-20 | s | IC TC7S08F |
| IC401 | 8-759-030-16 | s | IC MC34182M |
| IC501 | 8-759-066-68 | s | IC REF-03GS |
| IC502 | 8-759-142-20 | s | IC UPC4062G2 |
| L101 | 1-412-390-21 | s | INDUCTOR, CHIP 0uH |
| L201 | 1-412-390-21 | s | INDUCTOR, CHIP 0uH |
| L501 | 1-412-390-21 | s | INDUCTOR, CHIP 0uH |
| L502 | 1-412-390-21 | s | INDUCTOR, CHIP 0uH |
| Q201 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q202 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q203 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q204 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q205 | 8-765-930-08 | s | TRANSISTOR 3SK163-2 |
| Q206 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q207 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q301 | 8-729-425-41 | s | TRANSISTOR 2SK1374 |
| Q302 | 8-729-425-41 | s | TRANSISTOR 2SK1374 |
| Q303 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q304 | 8-765-930-08 | s | TRANSISTOR 3SK163-2 |
| Q305 | 8-765-930-08 | s | TRANSISTOR 3SK163-2 |
| Q306 | 8-765-930-08 | s | TRANSISTOR 3SK163-2 |
| Q307 | 8-729-012-52 | s | TRANSISTOR 2SC4173-B13 |
| Q308 | 8-729-012-52 | s | TRANSISTOR 2SC4173-B13 |
| Q309 | 8-729-012-52 | s | TRANSISTOR 2SC4173-B13 |
| Q310 | 8-729-012-52 | s | TRANSISTOR 2SC4173-B13 |
| Q311 | 8-729-012-52 | s | TRANSISTOR 2SC4173-B13 |
| Q312 | 8-729-012-52 | s | TRANSISTOR 2SC4173-B13 |
| Q321 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q322 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q331 | 8-765-930-08 | s | TRANSISTOR 3SK163-2 |
| Q332 | 8-765-930-08 | s | TRANSISTOR 3SK163-2 |
| Q401 | 8-765-930-08 | s | TRANSISTOR 3SK163-2 |
| Q501 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q502 | 8-729-805-25 | s | TRANSISTOR 2SB1121 |
| Q503 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q504 | 8-729-807-16 | s | TRANSISTOR 2SD1621 |
| R101 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R102 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R103 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |

(SH-45 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R104 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R105 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R106 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R107 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R201 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R202 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R203 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R204 | 1-218-736-11 | s | METAL 68K 0.50% 1/16W |
| R205 | 1-218-736-11 | s | METAL 68K 0.50% 1/16W |
| R206 | 1-218-736-11 | s | METAL 68K 0.50% 1/16W |
| R207 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R208 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R209 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R210 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R211 | 1-218-289-11 | s | METAL, CHIP 510 5% 1/16W |
| R214 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R215 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R216 | 1-218-741-11 | s | METAL 110K 0.50% 1/16W |
| R217 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R218 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R219 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R220 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R222 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R223 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R225 | 1-216-834-11 | s | METAL, CHIP 12K 5% 1/16W |
| R226 | 1-218-714-11 | s | METAL 8.2K 0.50% 1/16W |
| R227 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R228 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R230 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R231 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R235 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R236 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R237 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R238 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R239 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R240 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R241 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R242 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R243 | 1-220-373-11 | s | METAL 620 0.50% 1/16W |
| R244 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R245 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R246 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R247 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R248 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R249 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R250 | 1-218-736-11 | s | METAL 68K 0.50% 1/16W |
| R251 | 1-216-852-11 | s | METAL, CHIP 390K 5% 1/16W |
| R252 | 1-218-695-11 | s | METAL 1.3K 0.50% 1/16W |
| R254 | 1-218-269-11 | s | CHIP, 360 5% 1/16W |
| R265 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R266 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R267 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R268 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R269 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R270 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R301 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R302 | 1-218-270-11 | s | METAL 1.1K 0.50% 1/16W |
| R303 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R304 | 1-216-857-11 | s | METAL, CHIP 1M 5% 1/16W |

(SH-45 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R305 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R306 | 1-218-313-11 | s | METAL, CHIP 560 1% 1/16W |
| R307 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R308 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R309 | 1-218-345-11 | s | METAL 9.1K 0.50% 1/16W |
| R310 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R311 | 1-218-748-11 | s | METAL 220K 0.50% 1/16W |
| R312 | 1-216-853-11 | s | METAL, CHIP 470K 5% 1/16W |
| R313 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R314 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R315 | 1-218-313-11 | s | METAL, CHIP 560 1% 1/16W |
| R316 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R317 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R318 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R319 | 1-216-863-11 | s | METAL 3.3M 5% 1/16W |
| R320 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R321 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R322 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R323 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R324 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R325 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R326 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R327 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R328 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R329 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R330 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R331 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R332 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R333 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R334 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R335 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R336 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R337 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R338 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R339 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R340 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R341 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R342 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R343 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R344 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R345 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R346 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R347 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R348 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R349 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R350 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R351 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R352 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R353 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R354 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R355 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R356 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R360 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R361 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R362 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R363 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R364 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R365 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R366 | 1-218-723-11 | s | METAL 20K 0.50% 1/16W |

(SH-45 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R367 | 1-218-723-11 | s | METAL 20K 0.50% 1/16W |
| R368 | 1-218-723-11 | s | METAL 20K 0.50% 1/16W |
| R369 | 1-216-854-11 | s | METAL, CHIP 560K 5% 1/16W |
| R370 | 1-216-854-11 | s | METAL, CHIP 560K 5% 1/16W |
| R371 | 1-216-854-11 | s | METAL, CHIP 560K 5% 1/16W |
| R372 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R373 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R374 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R375 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R376 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R377 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R378 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R379 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R380 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R381 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R382 | 1-218-750-11 | s | METAL 270K 0.50% 1/16W |
| R383 | 1-218-752-11 | s | METAL 330K 0.50% 1/16W |
| R384 | 1-218-748-11 | s | METAL 220K 0.50% 1/16W |
| R385 | 1-218-727-11 | s | METAL 30K 0.50% 1/16W |
| R386 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R387 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R388 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R389 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R390 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R391 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R392 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W/16W |
| R393 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R394 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W/16W |
| R395 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R396 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W/16W |
| R397 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R398 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R399 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R400 | 1-218-714-11 | s | METAL 8.2K 0.50% 1/16W |
| R401 | 1-218-714-11 | s | METAL 8.2K 0.50% 1/16W |
| R402 | 1-218-714-11 | s | METAL 8.2K 0.50% 1/16W |
| R403 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R404 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R405 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R406 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R407 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R408 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R409 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R410 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R411 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R412 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R413 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R414 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R415 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R416 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R417 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R418 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R419 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R420 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R421 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R422 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R423 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R424 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R425 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |

(SH-45 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R426 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R428 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R429 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R430 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R431 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R432 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R433 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R434 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R435 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R441 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R442 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R443 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R444 | 1-218-744-11 | s | METAL 150K 0.50% 1/16W |
| R445 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R446 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R447 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R448 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R501 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R502 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R503 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R504 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R505 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R506 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R507 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R508 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R509 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R510 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| RV301 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV302 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV303 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV304 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV305 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV306 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV307 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV308 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV309 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV310 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV311 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV312 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV313 | 1-237-037-11 | s | RES, ADJ, METAL 20K |
| RV314 | 1-237-037-11 | s | RES, ADJ, METAL 20K |
| RV315 | 1-237-037-11 | s | RES, ADJ, METAL 20K |
| RV316 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV317 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV318 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV319 | 1-237-037-11 | s | RES, ADJ, METAL 20K |
| RV320 | 1-237-037-11 | s | RES, ADJ, METAL 20K |
| RV321 | 1-237-037-11 | s | RES, ADJ, METAL 20K |
| RV322 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV323 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV324 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV328 | 1-237-037-11 | s | RES, ADJ, METAL 20K |
| RV329 | 1-237-037-11 | s | RES, ADJ, METAL 20K |
| RV330 | 1-237-037-11 | s | RES, ADJ, METAL 20K |
| RV401 | 1-237-036-11 | s | RES, ADJ, METAL 10K |
| S101 | 1-554-371-51 | s | SWITCH, TACTILE |
| SW301 | 1-692-270-11 | s | SWITCH, SLIDE |

(SH-45 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| X101 | 1-579-594-11 | s | VIBRATOR, CRYSTAL 19.6608MHz |

------------

## SV-135 BOARD

------------

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8271-240-A | o | MOUNTED CIRCUIT BOARD, SV-135 |
| C1 | 1-135-091-00 | s | TANTALUM, CHIP 1uF 10% 16V |
| C2 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C3 | 1-127-509-00 | s | ELECT,SOLID 3.3uF 20% 25V |
| C4 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C5 | 1-135-159-21 | s | TANTALUM, CHIP 10uF 10% 20V |
| C6 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C7 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C9 | 1-128-525-11 | s | ELECT 470uF 20% 16V |
| C10 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C13 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C14 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C15 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C17 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C101 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| CN1 | 1-580-561-11 | o | PIN, CONNECTOR 12P |
| CN2 | 1-580-533-11 | s | PIN, CONNECTOR 8P |
| D1 | 8-719-800-76 | s | DIODE 1SS226 |
| D2 | 8-719-800-76 | s | DIODE 1SS226 |
| D5 | 8-719-800-76 | s | DIODE 1SS226 |
| D6 | 8-719-800-76 | s | DIODE 1SS226 |
| IC1 | 8-759-142-20 | s | IC UPC4062G2 |
| IC2 | 8-759-009-06 | s | IC MC14052BF |
| IC3 | 8-759-009-06 | s | IC MC14052BF |
| IC4 | 8-759-142-19 | s | IC UPC4064G |
| IC5 | 8-759-928-08 | s | IC TLC27M4CNS |
| IC6 | 8-759-209-97 | s | IC TC4S81F |
| L1 | 1-410-658-31 | s | INDUCTOR, CHIP 220uH |
| L2 | 1-410-658-31 | s | INDUCTOR, CHIP 220uH |
| L3 | 1-410-658-31 | s | INDUCTOR, CHIP 220uH |
| L4 | 1-410-658-31 | s | INDUCTOR, CHIP 220uH |
| Q1 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q2 | 8-729-805-25 | s | TRANSISTOR 2SB1121 |
| Q3 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q4 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q5 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q6 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q7 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q8 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q9 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q10 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q11 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| R1 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R2 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R3 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R4 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R5 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R6 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R9 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R10 | 1-218-695-11 | s | METAL 1.3K 0.50% 1/16W |
| R11 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R12 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R13 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R14 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R15 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R16 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |

(SV-135 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R17 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R18 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R19 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R20 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R21 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R22 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R23 | 1-218-741-11 | s | METAL 110K 0.50% 1/16W |
| R24 | 1-218-741-11 | s | METAL 110K 0.50% 1/16W |
| R25 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R27 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R28 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R29 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R30 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R31 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R32 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R33 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R34 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R37 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R38 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R39 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R40 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R41 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R42 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R43 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R44 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R45 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R46 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R47 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R48 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R49 | 1-218-741-11 | s | METAL 110K 0.50% 1/16W |
| R50 | 1-218-741-11 | s | METAL 110K 0.50% 1/16W |
| R51 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R52 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R53 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R54 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R55 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R56 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R57 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R58 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R60 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R61 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| RV1 | 1-237-030-11 | s | RES, ADJ, METAL 100 |
| RV2 | 1-237-030-11 | s | RES, ADJ, METAL 100 |
| RV3 | 1-237-030-11 | s | RES, ADJ, METAL 100 |
| RV4 | 1-237-030-11 | s | RES, ADJ, METAL 100 |
| S1 | 1-571-259-11 | s | SWITCH, SLIDE |

## SW-482 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 1-642-625-11 | o | PRINTED CIRCUIT BOARD, SW-482 |
| CN1 | 1-580-557-11 | o | PIN, CONNECTOR 4P |
| CN2 | 1-580-558-11 | o | PIN, CONNECTOR 6P |
| SW1 | 1-554-395-00 | s | SWITCH, TOGGLE |

## SW-488 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 1-642-626-11 | o | PRINTED CIRCUIT BOARD, SW-488 |
| CN1 | 1-568-328-11 | o | CONNECTOR, BOARD TO BOARD 10P |
| SW1 | 1-554-356-00 | s | SWITCH, TOGGLE |
| SW2 | 1-554-770-11 | s | SWITCH, TOGGLE |
| SW3 | 1-570-911-11 | s | SWITCH, TOGGLE |
| SW4 | 1-554-356-00 | s | SWITCH, TOGGLE |

## SW-491 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 1-642-634-11 | o | PRINTED CIRCUIT BOARD, SW-491 |
| CN1 | 1-580-559-11 | o | PIN, CONNECTOR 8P |
| CN2 | 1-580-558-11 | o | PIN, CONNECTOR 6P |
| SW1 | 1-570-472-11 | s | SWITCH, KEY BOARD |

## SW-494 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 1-642-635-11 | o | PRINTED CIRCUIT BOARD, SW-494 |
| C1 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C2 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| CN1 | 1-580-558-11 | o | PIN, CONNECTOR 6P |
| CN2 | 1-568-344-11 | o | CONNECTOR, BOARD TO BOARD 10P |
| D1 | 8-719-800-76 | s | DIODE 1SS226 |
| D2 | 8-719-800-76 | s | DIODE 1SS226 |
| D3 | 8-719-800-76 | s | DIODE 1SS226 |
| D4 | 8-719-800-76 | s | DIODE 1SS226 |
| D5 | 8-719-800-76 | s | DIODE 1SS226 |
| D6 | 8-719-800-76 | s | DIODE 1SS226 |
| D7 | 8-719-800-76 | s | DIODE 1SS226 |
| D8 | 8-719-800-76 | s | DIODE 1SS226 |
| D9 | 8-719-820-05 | s | DIODE 1SS181 |
| IC1 | 8-759-030-50 | s | IC MC14490F |
| IC2 | 8-759-030-50 | s | IC MC14490F |
| IC3 | 8-759-990-61 | s | IC PCF8574T |
| R1 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R2 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R3 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R4 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R5 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R6 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R7 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R8 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R9 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R10 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R11 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R12 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R13 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |

## SW-538 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 1-642-636-11 | o | PRINTED CIRCUIT BOARD, SW-538 |
| CN1 | 1-580-557-11 | o | PIN, CONNECTOR 4P |
| SW1 | 1-554-400-00 | s | SWITCH, TOGGLE |

## SW-569 BOARD

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 1-643-697-11 | o | PRINTED CIRCUIT BOARD, SW-569 |
| CN1 | 1-580-531-11 | o | PIN, CONNECTOR 4P |
| SW1 | 1-570-472-11 | s | SWITCH, KEY BOARD |
| SW2 | 1-570-472-11 | s | SWITCH, KEY BOARD |

------------
## VA-118 BOARD
------------

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8271-245-A | o | MOUNTED CIRCUIT BOARD, VA-118 |
| 2pcs | 3-175-429-01 | s | KNOB, PULL OUT |
| 4pcs | 7-621-771-06 | s | SCREW +B 2X5 |
| 2pcs | 7-627-553-68 | s | SCREW,PRECISION +P 2X6 |
| C1 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C2 | 1-162-920-11 | s | CERAMIC, CHIP 27PF 5% 50V |
| C3 | 1-164-315-11 | s | CERAMIC 470PF 5% 50V |
| C4 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C5 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C6 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C7 | 1-162-910-11 | s | CERAMIC 5PF 0.25PF 50V |
| C8 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C9 | 1-135-076-21 | s | TANTALUM, CHIP 1uF 10% 35V |
| C10 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C11 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C12 | 1-135-179-21 | s | TANTALUM 2.2uF 20% 16V |
| C13 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C14 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C15 | 1-135-167-21 | s | TANTALUM, CHIP 68uF 20% 6.3V |
| C16 | 1-135-091-00 | s | TANTALUN, CHIP 1uF 10% 16V |
| C17 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C18 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C19 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C20 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C21 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C31 | 1-162-966-11 | s | CERAMIC, CHIP 0.0022uF 10% 50V |
| C32 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C33 | 1-135-179-21 | s | TANTALUM 2.2uF 20% 16V |
| C101 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C102 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C103 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C104 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C105 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C106 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C107 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C108 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C109 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C110 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C111 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C112 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C113 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C114 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C115 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C116 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C117 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C118 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C119 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C120 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C121 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C122 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C123 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C124 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C125 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C126 | 1-135-091-00 | s | TANTALUN, CHIP 1uF 10% 16V |
| C127 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C128 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C129 | 1-162-908-11 | s | CERAMIC 3PF 0.25PF 50V |
| C130 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C131 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C132 | 1-135-211-11 | s | TANTAL 6.8uF 20% 6.3VW |
| C133 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C134 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C135 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C136 | 1-135-211-11 | s | TANTAL 6.8uF 20% 6.3VW |
| C137 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C138 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C139 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C140 | 1-135-180-21 | s | TANTAL 3.3uF 20% 6.3V |
| C141 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C142 | 1-135-148-21 | s | TANTALUM, CHIP 1.5uF 20% 16V |
| C143 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C144 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C145 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C146 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C147 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C148 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C149 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C150 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C151 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C152 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C153 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C154 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C155 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C156 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C157 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C158 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C159 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C160 | 1-162-921-11 | s | CERAMIC, CHIP 33PF 5% 50V |
| C161 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C162 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C165 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C171 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C172 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C173 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C174 | 1-135-076-21 | s | TANTALUM, CHIP 1uF 10% 35V |
| C301 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C302 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C303 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C304 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C305 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C306 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C307 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C308 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C309 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C310 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C311 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C312 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C313 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C314 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C315 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C316 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C317 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C318 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C319 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C320 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C321 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C322 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C323 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C324 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C325 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C326 | 1-135-091-00 | s | TANTALUN, CHIP 1uF 10% 16V |
| C327 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C328 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C329 | 1-162-908-11 | s | CERAMIC 3PF 0.25PF 50V |
| C330 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C331 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C332 | 1-135-211-11 | s | TANTAL 6.8uF 20% 6.3VW |
| C333 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C334 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C335 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C336 | 1-135-211-11 | s | TANTAL 6.8uF 20% 6.3VW |
| C337 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C338 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C339 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C340 | 1-135-180-21 | s | TANTAL 3.3uF 20% 6.3V |
| C341 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C342 | 1-135-148-21 | s | TANTALUM, CHIP 1.5uF 20% 16V |
| C343 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C344 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C345 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C346 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C347 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C348 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C349 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C350 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C351 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C352 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C353 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C354 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C355 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C356 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C357 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C358 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C359 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C360 | 1-162-921-11 | s | CERAMIC, CHIP 33PF 5% 50V |
| C361 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C362 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C365 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C371 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C372 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C373 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C374 | 1-135-076-21 | s | TANTALUM, CHIP 1uF 10% 35V |
| C501 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C502 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C503 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C504 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C505 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C506 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C507 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C508 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C509 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C510 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C511 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C512 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C513 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C514 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C515 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C516 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C517 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C518 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C519 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C520 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C521 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C522 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C523 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C524 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C525 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C526 | 1-135-091-00 | s | TANTALUN, CHIP 1uF 10% 16V |
| C527 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C528 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C529 | 1-162-908-11 | s | CERAMIC 3PF 0.25PF 50V |
| C530 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C531 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C532 | 1-135-211-11 | s | TANTAL 6.8uF 20% 6.3VW |
| C533 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C534 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C535 | 1-135-211-11 | s | TANTAL 6.8uF 20% 6.3VW |
| C536 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C537 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C538 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C539 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C540 | 1-135-180-21 | s | TANTAL 3.3uF 20% 6.3V |
| C541 | 1-135-162-21 | s | TANTALUM, CHIP 33uF 10% 6.3V |
| C542 | 1-135-148-21 | s | TANTALUM, CHIP 1.5uF 20% 16V |
| C543 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C544 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C545 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C546 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C547 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C548 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C549 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C550 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C551 | 1-135-161-21 | s | TANTALUM, CHIP 22uF 10% 10V |
| C552 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C553 | 1-135-210-11 | s | TANTALUM, CHIP 4.7uF 10% 10V |
| C554 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C555 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C556 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C557 | 1-135-166-21 | s | TANTALUM, CHIP 47uF 10% 10V |
| C558 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C559 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C560 | 1-162-921-11 | s | CERAMIC, CHIP 33PF 5% 50V |
| C561 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C562 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C565 | 1-135-216-11 | s | TANTALUM, CHIP 10uF 20% 10V |
| C571 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C572 | 1-162-927-11 | s | CERAMIC, CHIP 100PF 5% 50V |
| C573 | 1-164-156-11 | s | CERAMIC 0.1uF 25V |
| C574 | 1-135-076-21 | s | TANTALUM, CHIP 1uF 10% 35V |
| CN1 | 1-691-847-11 | o | CONNECTOR (SQUARE TYPE) 50P |
| D101 | 8-719-800-76 | s | DIODE 1SS226 |
| D102 | 8-719-800-76 | s | DIODE 1SS226 |
| D301 | 8-719-800-76 | s | DIODE 1SS226 |
| D302 | 8-719-800-76 | s | DIODE 1SS226 |
| D501 | 8-719-800-76 | s | DIODE 1SS226 |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| D502 | 8-719-800-76 | s | DIODE 1SS226 |
| FL101 | 1-239-297-11 | s | FILTER, LOW PASS |
| FL301 | 1-239-297-11 | s | FILTER, LOW PASS |
| FL501 | 1-239-297-11 | s | FILTER, LOW PASS |
| IC1 | 8-759-239-23 | s | IC SN74HC86NS |
| IC2 | 8-759-926-02 | s | IC SN74HC112ANS |
| IC3 | 8-759-209-69 | s | IC TC4S11F |
| IC4 | 8-759-234-20 | s | IC TC7S08F |
| IC5 | 8-759-014-29 | s | IC MC34184M |
| IC6 | 8-759-239-34 | s | IC TC74HC4538AF |
| IC7 | 8-759-209-69 | s | IC TC4S11F |
| IC8 | 8-759-209-69 | s | IC TC4S11F |
| IC9 | 8-759-054-61 | s | IC CLC505AJE |
| IC10 | 8-759-066-68 | s | IC REF-03GS |
| IC12 | 8-759-990-61 | s | IC PCF8574T |
| IC13 | 8-759-142-19 | s | IC UPC4064G |
| IC14 | 8-759-635-27 | s | IC M62352GP |
| IC15 | 8-759-300-71 | s | IC MC14053BF |
| IC16 | 8-759-234-77 | s | IC TC4S66F |
| IC17 | 8-759-054-63 | s | IC TLC339CNS |
| IC101 | 8-759-054-61 | s | IC CLC505AJE |
| IC102 | 8-759-142-20 | s | IC UPC4062G2 |
| IC103 | 8-752-052-73 | s | IC CXA1451M |
| IC104 | 8-759-054-61 | s | IC CLC505AJE |
| IC105 | 8-759-234-20 | s | IC TC7S08F |
| IC106 | 8-759-030-49 | s | IC MC1495M |
| IC107 | 8-759-142-19 | s | IC UPC4064G |
| IC108 | 8-759-054-61 | s | IC CLC505AJE |
| IC109 | 8-759-054-61 | s | IC CLC505AJE |
| IC110 | 8-759-030-49 | s | IC MC1495M |
| IC111 | 8-759-054-61 | s | IC CLC505AJE |
| IC112 | 8-759-054-61 | s | IC CLC505AJE |
| IC301 | 8-759-054-61 | s | IC CLC505AJE |
| IC302 | 8-759-142-20 | s | IC UPC4062G2 |
| IC303 | 8-752-052-73 | s | IC CXA1451M |
| IC304 | 8-759-054-61 | s | IC CLC505AJE |
| IC305 | 8-759-234-20 | s | IC TC7S08F |
| IC306 | 8-759-030-49 | s | IC MC1495M |
| IC307 | 8-759-142-19 | s | IC UPC4064G |
| IC308 | 8-759-054-61 | s | IC CLC505AJE |
| IC309 | 8-759-054-61 | s | IC CLC505AJE |
| IC310 | 8-759-030-49 | s | IC MC1495M |
| IC311 | 8-759-054-61 | s | IC CLC505AJE |
| IC312 | 8-759-054-61 | s | IC CLC505AJE |
| IC501 | 8-759-054-61 | s | IC CLC505AJE |
| IC502 | 8-759-142-20 | s | IC UPC4062G2 |
| IC503 | 8-752-052-73 | s | IC CXA1451M |
| IC504 | 8-759-054-61 | s | IC CLC505AJE |
| IC505 | 8-759-234-20 | s | IC TC7S08F |
| IC506 | 8-759-030-49 | s | IC MC1495M |
| IC507 | 8-759-142-19 | s | IC UPC4064G |
| IC508 | 8-759-054-61 | s | IC CLC505AJE |
| IC509 | 8-759-054-61 | s | IC CLC505AJE |
| IC510 | 8-759-030-49 | s | IC MC1495M |
| IC511 | 8-759-054-61 | s | IC CLC505AJE |
| IC512 | 8-759-054-61 | s | IC CLC505AJE |
| Q1 | 8-765-930-08 | s | TRANSISTOR 3SK163-2 |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| Q2 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q3 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q4 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q5 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q6 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q7 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q8 | 8-729-805-25 | s | TRANSISTOR 2SB1121 |
| Q9 | 8-729-805-25 | s | TRANSISTOR 2SB1121 |
| Q10 | 8-729-807-16 | s | TRANSISTOR 2SD1621 |
| Q11 | 8-729-117-16 | s | TRANSISTOR 2SA1611-M6 |
| Q12 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q13 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q14 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q103 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q104 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q105 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q106 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q107 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q108 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q109 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q110 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q111 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q112 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q113 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q303 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q304 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q305 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q306 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q307 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q308 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q309 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q310 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q311 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q312 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q313 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q503 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q504 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q505 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q506 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q507 | 8-769-401-67 | s | TRANSISTOR 3SK163-1 |
| Q508 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q509 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q510 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q511 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| Q512 | 8-729-143-14 | s | TRANSISTOR 2SC4176-B35 |
| Q513 | 8-729-143-07 | s | TRANSISTOR 2SA1610-Y33 |
| R1 | 1-216-852-11 | s | METAL, CHIP 390K 5% 1/16W |
| R2 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R3 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R4 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R5 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R6 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R7 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R8 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R9 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R10 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R11 | 1-218-695-11 | s | METAL 1.3K 0.50% 1/16W |
| R12 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R13 | 1-216-795-11 | s | METAL 6.8K 0.50% 1/16W |
| R14 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R15 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |
| R16 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R17 | 1-218-672-11 | s | METAL 150 0.50% 1/16W |
| R18 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R19 | 1-218-745-11 | s | METAL 160K 0.50% 1/16W |
| R20 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R21 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R22 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R23 | 1-218-828-11 | s | METAL 160 0.50% 1/16W |
| R24 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R25 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R26 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R27 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R28 | 1-218-660-91 | s | METAL 47 0.50% 1/16W |
| R29 | 1-218-660-91 | s | METAL 47 0.50% 1/16W |
| R30 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R31 | 1-218-723-11 | s | METAL 20K 0.50% 1/16W |
| R32 | 1-218-738-11 | s | METAL 82K 0.50% 1/16W |
| R33 | 1-218-669-91 | s | METAL 110 0.50% 1/16W |
| R34 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R35 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R36 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R37 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R38 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R39 | 1-218-701-11 | s | METAL 2.4K 0.50% 1/16W |
| R40 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R41 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R42 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R43 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R44 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R45 | 1-216-842-11 | s | METAL, CHIP 56K 5% 1/16W |
| R46 | 1-216-842-11 | s | METAL, CHIP 56K 5% 1/16W |
| R47 | 1-216-842-11 | s | METAL, CHIP 56K 5% 1/16W |
| R48 | 1-218-748-11 | s | METAL 220K 0.50% 1/16W |
| R51 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R52 | 1-216-864-11 | s | METAL, CHIP 0-OHM |
| R53 | 1-216-864-11 | s | METAL, CHIP 0-OHM |
| R54 | 1-216-864-11 | s | METAL, CHIP 0-OHM |
| R55 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R56 | 1-218-883-11 | s | METAL 33K 0.50% 1/16W |
| R57 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R58 | 1-218-738-11 | s | METAL 82K 0.50% 1/16W |
| R59 | 1-218-695-11 | s | METAL 1.3K 0.50% 1/16W |
| R60 | 1-218-695-11 | s | METAL 1.3K 0.50% 1/16W |
| R61 | 1-220-373-11 | s | METAL 620 0.50% 1/16W |
| R62 | 1-218-695-11 | s | METAL 1.3K 0.50% 1/16W |
| R63 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |
| R64 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |
| R65 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |
| R103 | 1-218-680-11 | s | METAL 330 0.50% 1/16W |
| R105 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R107 | 1-218-289-11 | s | METAL, CHIP 510 5% 1/16W |
| R109 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R110 | 1-218-733-11 | s | METAL 51K 0.50% 1/16W |
| R111 | 1-218-697-11 | s | METAL 1.6K 0.50% 1/16W |
| R112 | 1-216-842-11 | s | METAL, CHIP 56K 5% 1/16W |
| R113 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R114 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R115 | 1-218-745-11 | s | METAL 160K 0.50% 1/16W |
| R116 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R117 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R118 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R119 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R120 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R121 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R122 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R123 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R124 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R125 | 1-218-736-11 | s | METAL 68K 0.50% 1/16W |
| R126 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R127 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R128 | 1-218-270-11 | s | METAL 1.1K 0.50% 1/16W |
| R129 | 1-218-677-11 | s | METAL 240 0.50% 1/16W |
| R130 | 1-218-735-11 | s | METAL 62K 0.50% 1/16W |
| R131 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R132 | 1-218-680-11 | s | METAL 330 0.50% 1/16W |
| R133 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R134 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R135 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R136 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R137 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R138 | 1-216-846-11 | s | METAL, CHIP 120K 5% 1/16W |
| R139 | 1-216-834-11 | s | METAL, CHIP 12K 5% 1/16W |
| R140 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R141 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |
| R142 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R143 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R144 | 1-216-826-11 | s | METAL, CHIP 2.7K 5% 1/16W |
| R145 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R146 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R147 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R148 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R149 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R150 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R151 | 1-216-804-11 | s | METAL 39K 0.50% 1/16W |
| R152 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R153 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R154 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R155 | 1-218-745-11 | s | METAL 160K 0.50% 1/16W |
| R156 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R157 | 1-216-814-11 | s | METAL, CHIP 270 5% 1/16W |
| R158 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R159 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R160 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R161 | 1-218-296-11 | s | METAL, CHIP 75K 5% 1/16W |
| R162 | 1-216-834-11 | s | METAL, CHIP 12K 0.5% 1/16% |
| R163 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R164 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R165 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R166 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R167 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R168 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R169 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R170 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R171 | 1-218-748-11 | s | METAL 220K 0.50% 1/16W |
| R172 | 1-218-749-11 | s | METAL 240K 0.50% 1/16W |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R173 | 1-218-752-11 | s | METAL 330K 0.50% 1/16W |
| R174 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R175 | 1-216-846-11 | s | METAL, CHIP 120K 5% 1/16W |
| R176 | 1-218-735-11 | s | METAL 62K 0.50% 1/16W |
| R177 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R178 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R179 | 1-218-733-11 | s | METAL 51K 0.50% 1/16W |
| R180 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R181 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R182 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R183 | 1-218-484-11 | s | METAL 750 0.50% 1/16W |
| R184 | 1-218-705-11 | s | METAL 3.6K 0.50% 1/16W |
| R185 | 1-218-706-11 | s | METAL 3.9K 0.50% 1/16W |
| R186 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R187 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R188 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R189 | 1-218-707-11 | s | METAL 4.3K 0.50% 1/16W |
| R190 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R191 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R192 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R193 | 1-216-826-11 | s | METAL, CHIP 2.7K 5% 1/16W |
| R194 | 1-216-865-11 | s | METAL, CHIP 3K 1/16W |
| R195 | 1-218-653-11 | s | METAL 24 0.50% 1/16W |
| R196 | 1-218-828-11 | s | METAL 160 0.50% 1/16W |
| R197 | 1-216-865-11 | s | METAL, CHIP 3K 1/16W |
| R198 | 1-218-330-11 | s | METAL 11K 0.50% 1/16W |
| R199 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R200 | 1-218-296-11 | s | METAL, CHIP 75K 5% 1/16W |
| R201 | 1-218-285-11 | s | METAL, CHIP 75 5% 1/16W |
| R202 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R203 | 1-216-864-11 | s | METAL, CHIP 0-OHM |
| R204 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R211 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R212 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R213 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R214 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R215 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R216 | 1-218-750-11 | s | METAL 270K 0.50% 1/16W |
| R217 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R219 | 1-218-738-11 | s | METAL 82K 0.50% 1/16W |
| R220 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R221 | 1-218-707-11 | s | METAL 4.3K 0.50% 1/16W |
| R222 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R223 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R224 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R225 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R226 | 1-216-834-11 | s | METAL, CHIP 12K 5% 1/16W |
| R227 | 1-218-723-11 | s | METAL 20K 0.50% 1/16W |
| R228 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R303 | 1-218-680-11 | s | METAL 330 0.50% 1/16W |
| R305 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R306 | 1-218-289-11 | s | METAL, CHIP 510 5% 1/16W |
| R309 | 1-218-697-11 | s | METAL 1.6K 0.50% 1/16W |
| R310 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R311 | 1-218-733-11 | s | METAL 51K 0.50% 1/16W |
| R312 | 1-216-842-11 | s | METAL, CHIP 56K 5% 1/16W |
| R313 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R314 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R315 | 1-218-745-11 | s | METAL 160K 0.50% 1/16W |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R316 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R317 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R318 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R319 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R320 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R321 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R322 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R323 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R324 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R325 | 1-218-736-11 | s | METAL 68K 0.50% 1/16W |
| R326 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R327 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R328 | 1-218-270-11 | s | METAL 1.1K 0.50% 1/16W |
| R329 | 1-218-677-11 | s | METAL 240 0.50% 1/16W |
| R330 | 1-218-735-11 | s | METAL 62K 0.50% 1/16W |
| R331 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R332 | 1-218-680-11 | s | METAL 330 0.50% 1/16W |
| R333 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R334 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R335 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R336 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R337 | 1-218-723-11 | s | METAL 20K 0.50% 1/16W |
| R339 | 1-216-834-11 | s | METAL, CHIP 12K 5% 1/16W |
| R340 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R341 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |
| R342 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R343 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R344 | 1-216-826-11 | s | METAL, CHIP 2.7K 5% 1/16W |
| R345 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R346 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R347 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R348 | 1-218-716-11 | s | METAL 10k 0.50% 1/16W |
| R349 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R350 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R351 | 1-216-804-11 | s | METAL 39K 0.50% 1/16W |
| R352 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R353 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R354 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R355 | 1-218-745-11 | s | METAL 160K 0.50% 1/16W |
| R356 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R357 | 1-216-814-11 | s | METAL, CHIP 270 5% 1/16W |
| R358 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R359 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R360 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R361 | 1-218-296-11 | s | METAL, CHIP 75K 5% 1/16W |
| R362 | 1-216-834-11 | s | METAL, CHIP 12K 0.5% 1/16% |
| R363 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R364 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R365 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R366 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R367 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R368 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R369 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R370 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R371 | 1-218-748-11 | s | METAL 220K 0.50% 1/16W |
| R372 | 1-218-749-11 | s | METAL 240K 0.50% 1/16W |
| R373 | 1-218-752-11 | s | METAL 330K 0.50% 1/16W |
| R374 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R375 | 1-216-846-11 | s | METAL, CHIP 120K 5% 1/16W |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R376 | 1-218-735-11 | s | METAL 62K 0.50% 1/16W |
| R377 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R378 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R379 | 1-218-733-11 | s | METAL 51K 0.50% 1/16W |
| R380 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R381 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R382 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R383 | 1-218-484-11 | s | METAL 750 0.50% 1/16W |
| R384 | 1-218-705-11 | s | METAL 3.6K 0.50% 1/16W |
| R385 | 1-218-706-11 | s | METAL 3.9K 0.50% 1/16W |
| R386 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R387 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R388 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R389 | 1-218-707-11 | s | METAL 4.3K 0.50% 1/16W |
| R390 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R391 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R392 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R393 | 1-216-826-11 | s | METAL, CHIP 2.7K 5% 1/16W |
| R394 | 1-216-865-11 | s | METAL, CHIP 3K 1/16W |
| R395 | 1-218-653-11 | s | METAL 24 0.50% 1/16W |
| R396 | 1-218-828-11 | s | METAL 160 0.50% 1/16W |
| R397 | 1-216-865-11 | s | METAL, CHIP 3K 1/16W |
| R398 | 1-218-330-11 | s | METAL 11K 0.50% 1/16W |
| R399 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R400 | 1-218-296-11 | s | METAL, CHIP 75K 5% 1/16W |
| R401 | 1-218-285-11 | s | METAL, CHIP 75 5% 1/16W |
| R402 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R403 | 1-216-864-11 | s | METAL, CHIP 0-OHM |
| R404 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R411 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R412 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R413 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R414 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R415 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R416 | 1-218-750-11 | s | METAL 270K 0.50% 1/16W |
| R417 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R419 | 1-218-738-11 | s | METAL 82K 0.50% 1/16W |
| R420 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R421 | 1-218-707-11 | s | METAL 4.3K 0.50% 1/16W |
| R422 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R423 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R424 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R425 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R426 | 1-216-834-11 | s | METAL, CHIP 12K 5% 1/16W |
| R427 | 1-218-723-11 | s | METAL 20K 0.50% 1/16W |
| R428 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R503 | 1-218-680-11 | s | METAL 330 0.50% 1/16W |
| R505 | 1-218-708-11 | s | METAL 4.7K 0.50% 1/16W |
| R507 | 1-218-289-11 | s | METAL, CHIP 510 5% 1/16W |
| R509 | 1-218-733-11 | s | METAL 51K 0.50% 1/16W |
| R510 | 1-218-697-11 | s | METAL 1.6K 0.50% 1/16W |
| R511 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R512 | 1-216-842-11 | s | METAL, CHIP 56K 5% 1/16W |
| R513 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R514 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R515 | 1-218-745-11 | s | METAL 160K 0.50% 1/16W |
| R516 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R517 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R518 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R519 | 1-218-676-11 | s | METAL 220 0.50% 1/16W |
| R520 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R521 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R522 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R523 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R524 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R525 | 1-218-736-11 | s | METAL 68K 0.50% 1/16W |
| R526 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R527 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R528 | 1-218-270-11 | s | METAL 1.1K 0.50% 1/16W |
| R529 | 1-218-677-11 | s | METAL 240 0.50% 1/16W |
| R530 | 1-218-735-11 | s | METAL 62K 0.50% 1/16W |
| R531 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R532 | 1-218-680-11 | s | METAL 330 0.50% 1/16W |
| R533 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R534 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R535 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R536 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R537 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R538 | 1-216-846-11 | s | METAL, CHIP 120K 5% 1/16W |
| R539 | 1-216-834-11 | s | METAL, CHIP 12K 5% 1/16W |
| R540 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R541 | 1-216-838-11 | s | METAL, CHIP 27K 5% 1/16W |
| R542 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R543 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R544 | 1-216-826-11 | s | METAL, CHIP 2.7K 5% 1/16W |
| R545 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R546 | 1-218-295-11 | s | METAL 5.6K 0.50% 1/16W |
| R547 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R548 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R549 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R550 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R551 | 1-216-804-11 | s | METAL 39K 0.50% 1/16W |
| R552 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R553 | 1-218-720-11 | s | METAL 15K 0.50% 1/16W |
| R554 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R555 | 1-218-745-11 | s | METAL 160K 0.50% 1/16W |
| R556 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R557 | 1-216-814-11 | s | METAL, CHIP 270 5% 1/16W |
| R558 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R559 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R560 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R561 | 1-218-296-11 | s | METAL, CHIP 75K 5% 1/16W |
| R562 | 1-216-834-11 | s | METAL, CHIP 12K 0.5% 1/16% |
| R563 | 1-218-747-11 | s | METAL 200K 0.50% 1/16W |
| R564 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R565 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R566 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R567 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R568 | 1-218-740-11 | s | METAL 100K 0.50% 1/16W |
| R569 | 1-218-344-11 | s | METAL 7.5K 0.50% 1/16W |
| R570 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R571 | 1-218-748-11 | s | METAL 220K 0.50% 1/16W |
| R572 | 1-218-749-11 | s | METAL 240K 0.50% 1/16W |
| R573 | 1-218-752-11 | s | METAL 330K 0.50% 1/16W |
| R574 | 1-218-725-11 | s | METAL 24K 0.50% 1/16W |
| R575 | 1-216-846-11 | s | METAL, CHIP 120K 5% 1/16W |
| R576 | 1-218-735-11 | s | METAL 62K 0.50% 1/16W |
| R577 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |

(VA-118 BOARD)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R578 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R579 | 1-218-733-11 | s | METAL 51K 0.50% 1/16W |
| R580 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R581 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R582 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| R583 | 1-218-484-11 | s | METAL 750 0.50% 1/16W |
| R584 | 1-218-705-11 | s | METAL 3.6K 0.50% 1/16W |
| R585 | 1-218-706-11 | s | METAL 3.9K 0.50% 1/16W |
| R586 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R587 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R588 | 1-218-661-11 | s | METAL 51 0.50% 1/16W |
| R589 | 1-218-707-11 | s | METAL 4.3K 0.50% 1/16W |
| R590 | 1-218-271-11 | s | METAL 2K 0.50% 1/16W |
| R591 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R592 | 1-218-269-11 | s | METAL, CHIP 360 5% 1/16W |
| R593 | 1-216-826-11 | s | METAL, CHIP 2.7K 5% 1/16W |
| R594 | 1-216-865-11 | s | METAL, CHIP 3K 1/16W |
| R595 | 1-218-653-11 | s | METAL 24 0.50% 1/16W |
| R596 | 1-218-828-11 | s | METAL 160 0.50% 1/16W |
| R597 | 1-216-865-11 | s | METAL, CHIP 3K 1/16W |
| R598 | 1-218-330-11 | s | METAL 11K 0.50% 1/16W |
| R599 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R600 | 1-218-296-11 | s | METAL, CHIP 75K 5% 1/16W |
| R601 | 1-218-285-11 | s | METAL, CHIP 75 5% 1/16W |
| R602 | 1-218-675-11 | s | METAL 200 0.50% 1/16W |
| R603 | 1-216-864-11 | s | METAL, CHIP 0-OHM |
| R604 | 1-218-700-11 | s | METAL 2.2K 0.50% 1/16W |
| R611 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R612 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R613 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R614 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R615 | 1-218-732-11 | s | METAL 47K 0.50% 1/16W |
| R616 | 1-218-750-11 | s | METAL 270K 0.50% 1/16W |
| R617 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R619 | 1-218-738-11 | s | METAL 82K 0.50% 1/16W |
| R620 | 1-218-668-11 | s | METAL 100 0.50% 1/16W |
| R621 | 1-218-707-11 | s | METAL 4.3K 0.50% 1/16W |
| R622 | 1-218-704-11 | s | METAL 3.3K 0.50% 1/16W |
| R623 | 1-218-716-11 | s | METAL 10K 0.50% 1/16W |
| R624 | 1-218-724-11 | s | METAL 22K 0.50% 1/16W |
| R625 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R626 | 1-216-834-11 | s | METAL, CHIP 12K 5% 1/16W |
| R627 | 1-218-723-11 | s | METAL 20K 0.50% 1/16W |
| R628 | 1-218-272-11 | s | METAL 5.1K 0.50% 1/16W |
| RV101 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV102 | 1-237-031-11 | s | RES, ADJ, METAL 200 |
| RV103 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV104 | 1-228-458-00 | s | RES, ADJ, METAL 5K |
| RV301 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV302 | 1-237-031-11 | s | RES, ADJ, METAL 200 |
| RV303 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV304 | 1-228-458-00 | s | RES, ADJ, METAL 5K |
| RV501 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV502 | 1-237-031-11 | s | RES, ADJ, METAL 200 |
| RV503 | 1-237-038-11 | s | RES, ADJ, METAL 50K |
| RV504 | 1-228-458-00 | s | RES, ADJ, METAL 5K |

## FRAME

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
|  | 1-466-742-11 | o | DISK UNIT, FILTER |
|  | 1-541-950-11 | s | FAN, DC |
| CN1F(TO PS-243 BOARD) |  |  |  |
|  | 1-580-589-11 | o | HOUSING, 26P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN1F(TO SV-135 BOARD) |  |  |  |
|  | 1-580-582-11 | o | HOUSING, 12P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN1F(TO SW-482 BOARD) |  |  |  |
|  | 1-580-578-11 | o | HOUSING, 4P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN1F(TO SW-491 BOARD) |  |  |  |
|  | 1-580-580-11 | o | HOUSING, 8P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN1F(TO SW-494 BOARD) |  |  |  |
|  | 1-949-896-11 | o | HARNESS (SW-MB) |
|  | 1-580-579-11 | o | HOUSING, 6P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN1F(TO SW-538 BOARD) |  |  |  |
|  | 1-580-578-11 | o | HOUSING, 4P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN1F(TO SW-569 BOARD) |  |  |  |
|  | 1-580-578-11 | o | HOUSING, 4P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN2F(TO CN-563 BOARD) |  |  |  |
|  | 1-580-582-11 | o | HOUSING, 12P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN2F(TO SW-482 BOARD) |  |  |  |
|  | 1-580-579-11 | o | HOUSING, 6P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN2F(TO SW-491 BOARD) |  |  |  |
|  | 1-580-579-11 | o | HOUSING, 6P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN3F(TO CN-563 BOARD) |  |  |  |
|  | 1-580-582-11 | o | HOUSING, 12P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN4F(TO CN-563 BOARD) |  |  |  |
|  | 1-580-582-11 | o | HOUSING, 12P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN5F(TO CN-563 BOARD) |  |  |  |
|  | 1-580-578-11 | o | HOUSING, 4P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN6F(TO MB-365 BOARD) |  |  |  |
|  | 1-949-896-11 | o | HARNESS (SW-MB) |
|  | 1-580-579-11 | o | HOUSING, 6P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN6F(TO CN-563 BOARD) |  |  |  |
|  | 1-580-580-11 | o | HOUSING, 8P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN7F(TO MB-365 BOARD) |  |  |  |
|  | 1-580-589-11 | o | HOUSING, 26P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN8F(TO CN-563 BOARD) |  |  |  |
|  | 1-580-578-11 | o | HOUSING, 4P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN8F(TO MB-365 BOARD) |  |  |  |
|  | 1-580-587-11 | o | HOUSING, 22P |
|  | 1-580-599-11 | o | CONTACT, FEMALE AWG26-30 |
| CN9F(TO MB-365 BOARD) |  |  |  |
|  | 1-949-916-11 | o | HARNESS (NR-MB(R)) |
| CN10F(TO MB-365 BOARD) |  |  |  |
|  | 1-949-893-11 | o | HARNESS (NR-MB(G)) |
| CN11F(TO MB-365 BOARD) |  |  |  |
|  | 1-949-892-11 | o | HARNESS (NR-MB(B)) |

(FRAME)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| CN11F(TO NR-36 BOARD) | | | |
| | 1-949-916-11 | o | HARNESS (NR-MB(R)) |
| CN12F(TO MB-365 BOARD) | | | |
| | 1-950-643-11 | o | HARNESS (COAXIAL) |
| CN13F(TO MB-365 BOARD) | | | |
| | 1-950-643-11 | o | HARNESS (COAXIAL) |
| CN14F(TO MB-365 BOARD) | | | |
| | 1-950-643-11 | o | HARNESS (COAXIAL) |
| CN21F(TO NR-36 BOARD) | | | |
| | 1-949-893-11 | o | HARNESS (NR-MB(G)) |
| CN31F(TO NR-36 BOARD) | | | |
| | 1-949-892-11 | o | HARNESS (NR-MB(B)) |
| CN101 | 1-949-898-11 | s | HARNESS (SYSTEM) |
| | 1-568-912-11 | o | CONNECTOR (D02 M) 29P, MALE |
| CN102 | 1-949-906-13 | o | HARNESS (VF) |
| | 1-562-221-51 | s | CONNECTOR, FEMALE, 12P "VF" |
| CN103 | 1-949-905-11 | o | HARNESS (LNS) |
| | 1-562-221-51 | s | CONNECTOR, FEMALE, 12P "LENS" |
| CN104 | 1-949-904-11 | o | HARNESS (LNS-PWR) |
| | 1-565-072-21 | s | CONNECTOR, 4P, FEMALE "LENS POWER" |

## SUPPLIED ACCESSORIES

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8262-378-A | o | PLATE ASSY, TRIPOD |
| 1pc | A-8271-249-A | o | MOUNTED CIRCUIT BOARD, EX-317 |
| 1pc | X-3166-794-1 | o | CASE ASSY, CARRYING |
| 4pcs | 2-383-835-01 | o | CASTER |
| 1pc | 7-721-130-54 | s | WRENCH, BALL POINT L (BL3MM) |

# SECTION E
# CHANGED PARTS

NOTE: The numbers identified by making with ) are matching with each serial numbers.

204) Serial No. 10201 and higher
206) Serial No. 10301 and higher

## CN-563 BOARD

| | | |
|---|---|---|
| OLD) | R37 | 1-216-797-11 s METAL, CHIP 10 5% 1/16W |
| 204) | R37 | 1-216-864-11 s METAL, CHIP 0-OHM |
| OLD) | R38 | 1-216-797-11 s METAL, CHIP 10 5% 1/16W |
| 204) | R38 | DELETED. |

## SH-45 BOARD

| | | |
|---|---|---|
| OLD) | C401 | NOT IN USE. |
| 206) | C401 | 1-137-323-11 s FILM 0.01uF 5% 16V |
| OLD) | DL203 | NOT IN USE. |
| 204) | DL203 | 1-415-431-11 s DELAY LINE 50ns |
| OLD) | IC119 | NOT IN USE. |
| 206) | IC119 | 8-759-990-61 s IC PCF8574T |
| OLD) | IC221 | NOT IN USE. |
| 206) | IC221 | 8-759-035-90 s IC SC7S02FEL |
| OLD) | IC401 | NOT IN USE. |
| 206) | IC401 | 8-759-030-16 s IC MC34182M |
| OLD) | Q401 | NOT IN USE. |
| 206) | Q401 | 8-765-930-08 s TRANSISTOR 3SK163-2 |
| OLD) | R221 | 1-216-864-11 s METAL, CHIP 0-OHM |
| 206) | R221 | DELETED. |
| OLD) | R254 | NOT IN USE. |
| 204) | R254 | 1-218-269-11 s CHIP, 360 5% 1/16W |
| OLD) | R385 | 1-218-727-11 s METAL 30K 0.50% 1/16W |
| 204) | R385 | 1-218-725-11 s METAL 24K 0.50% 1/16W |
| OLD) | R386 | 1-218-724-11 s METAL 22K 0.50% 1/16W |
| 204) | R386 | 1-218-720-11 s METAL 15K 0.50% 1/16W |
| OLD) | R387 | 1-218-727-11 s METAL 30K 0.50% 1/16W |
| 204) | R387 | 1-218-725-11 s METAL 24K 0.50% 1/16W |
| OLD) | R388 | 1-218-724-11 s METAL 22K 0.50% 1/16W |
| 204) | R388 | 1-218-720-11 s METAL 15K 0.50% 1/16W |
| OLD) | R389 | 1-218-727-11 s METAL 30K 0.50% 1/16W |
| 204) | R389 | 1-218-725-11 s METAL 24K 0.50% 1/16W |
| OLD) | R390 | 1-218-724-11 s METAL 22K 0.50% 1/16W |
| 204) | R390 | 1-218-720-11 s METAL 15K 0.50% 1/16W |
| OLD) | R391 | 1-218-724-11 s METAL 22K 0.50% 1/16W |
| 204) | R391 | 1-218-725-11 s METAL 24K 0.50% 1/16W |
| OLD) | R392 | 1-216-823-11 s METAL, CHIP 1.5K 5% 1/16W |
| 204) | R392 | 1-218-725-11 s METAL 24K 0.50% 1/16W |
| OLD) | R393 | 1-218-724-11 s METAL 22K 0.50% 1/16W |
| 204) | R393 | 1-218-725-11 s METAL 24K 0.50% 1/16W |
| OLD) | R394 | 1-216-823-11 s METAL, CHIP 1.5K 5% 1/16W |
| 204) | R394 | 1-218-725-11 s METAL 24K 0.50% 1/16W |
| OLD) | R395 | 1-218-724-11 s METAL 22K 0.50% 1/16W |
| 204) | R395 | 1-218-725-11 s METAL 24K 0.50% 1/16W |
| OLD) | R396 | 1-216-823-11 s METAL, CHIP 1.5K 5% 1/16W |
| 204) | R396 | 1-218-725-11 s METAL 24K 0.50% 1/16W |

## SV-135 BOARD

| | | |
|---|---|---|
| OLD) | S1 | 1-571-098-11 s SWITCH, SLIDE |
| 206) | S1 | 1-571-259-11 s SWITCH, SLIDE |

## VA-118 BOARD

| | | |
|---|---|---|
| OLD) | Q112 | NOT IN USE. |
| 206) | Q112 | 8-729-143-14 s TRANSISTOR 2SC4176-B35 |
| OLD) | Q312 | NOT IN USE. |
| 206) | Q312 | 8-729-143-14 s TRANSISTOR 2SC4176-B35 |
| OLD) | Q512 | NOT IN USE. |
| 206) | Q512 | 8-729-143-14 s TRANSISTOR 2SC4176-B35 |
| OLD) | R162 | 1-218-735-11 s METAL 62K 0.50% 1/16W |
| 204) | R162 | 1-216-834-11 s METAL, CHIP 12K 0.5% 1/16% |
| OLD) | R203 | NOT IN USE |
| 206) | R203 | 1-216-864-11 s METAL, CHIP 0-OHM |
| OLD) | R215 | 1-218-745-11 s METAL 160K 0.50% 1/16W |
| 206) | R215 | 1-218-732-11 s METAL 47K 0.50% 1/16W |
| OLD) | R222 | NOT IN USE. |
| 206) | R222 | 1-218-704-11 s METAL 3.3K 0.50% 1/16W |
| OLD) | R223 | NOT IN USE. |
| 206) | R223 | 1-218-716-11 s METAL 10K 0.50% 1/16W |
| OLD) | R224 | NOT IN USE. |
| 206) | R224 | 1-218-724-11 s METAL 22K 0.50% 1/16W |
| OLD) | R362 | 1-218-735-11 s METAL 62K 0.50% 1/16W |
| 204) | R362 | 1-216-834-11 s METAL, CHIP 12K 0.5% 1/16% |
| OLD) | R403 | NOT IN USE |
| 206) | R403 | 1-216-864-11 s METAL, CHIP 0-OHM |
| OLD) | R415 | 1-218-745-11 s METAL 160K 0.50% 1/16W |
| 206) | R415 | 1-218-732-11 s METAL 47K 0.50% 1/16W |
| OLD) | R422 | NOT IN USE. |
| 206) | R422 | 1-218-704-11 s METAL 3.3K 0.50% 1/16W |
| OLD) | R423 | NOT IN USE. |
| 206) | R423 | 1-218-716-11 s METAL 10K 0.50% 1/16W |
| OLD) | R424 | NOT IN USE. |
| 206) | R424 | 1-218-724-11 s METAL 22K 0.50% 1/16W |
| OLD) | R562 | 1-218-735-11 s METAL 62K 0.50% 1/16W |
| 204) | R562 | 1-216-834-11 s METAL, CHIP 12K 0.5% 1/16% |
| OLD) | R603 | NOT IN USE |
| 206) | R603 | 1-216-864-11 s METAL, CHIP 0-OHM |
| OLD) | R615 | 1-218-745-11 s METAL 160K 0.50% 1/16W |
| 206) | R615 | 1-218-732-11 s METAL 47K 0.50% 1/16W |
| OLD) | R622 | NOT IN USE. |
| 206) | R622 | 1-218-704-11 s METAL 3.3K 0.50% 1/16W |
| OLD) | R623 | NOT IN USE. |
| 206) | R623 | 1-218-716-11 s METAL 10K 0.50% 1/16W |
| OLD) | R624 | NOT IN USE. |
| 206) | R624 | 1-218-724-11 s METAL 22K 0.50% 1/16W |

HDC-500
3-175-444-02

Sony Corporation
**Camera Products Group**

Printed in Japan
1992. 12 09
© 1992
Published by B & P Marketing Group